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STRENGTHENING SOCIAL AND EMOTIONAL HEALTH

Rochester Early Childhood Assessment Partnership 2015-2016 Nineteenth Annual Report

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Acknowledgments

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Program partners include: Action for a Better Community's Early Education Division, Early Childhood Education Quality Council Centers, Family Resource Centers of Crestwood Children's Center, Florence S. Brown pre-k classrooms, Rochester Preschool-Parent Program, Rochester City School District programs, YMCA programs, and the following independent child care centers: Caring and Sharing, Community Place at Carter Street, Monroe Community College's Richard M. Guon Child Care Center, and Stepping Stones Learning Center.

We thank the teachers, adult family educators, parent coordinators, directors, and administrators who work closely with thousands of students and their parents. Their personal attention to families contributes greatly to RECAP. These individuals unselfishly contribute information and share their insight with the Assessment Team, which is vital to our continuous improvement system. We would especially like to recognize and thank the teachers who have continued to help us improve the process of collecting and sharing information about the children in RECAP. Their comments and feedback, especially regarding new software and data collection and management technology, have been invaluable.

We thank the thousands of parents who gave time from their busy schedules to share their thoughts and perceptions about their children and other topics. Without parents, RECAP would not be as complete or comprehensive.

We thank the RECAP Advisory Council and especially Nancy Kaplan, its chair, for helping us to keep the needs of children and all our partners foremost in our operations, and for its valuable feedback and insights regarding the current goals and activities of our community's early childhood system.

We thank the communications staff of Children's Institute for contributions to this report.

Executive Summary

RECAP's Major Findings for 2015-2016—UPK

Students

- As seen in the previous two years, we observed high rates of academic growth, as much as two years' gains. However, children continue to arrive at UPK far behind developmental expectations and too many are still leaving behind. Students grew, on average, 1.7 years on the COR Advantage overall, with over two years growth in ***Math***, ***Science and Technology***, and ***Social Studies*** domains. There is less growth in the ***Language, Literacy, and Communication*** and the ***Social Studies*** domains compared with other academic domains assessed by the COR Advantage.
- Students entered pre-k at very low functioning levels and made significant growth, but many did not improve enough to be "ready" for the new kindergarten curriculum. Overall, 53% of our pre-k students *were* ready to make the transition to kindergarten at an accepted benchmark level of school readiness; however, 47% did not attain kindergarten readiness levels. This does not account for any summer losses, which over the past decade have resulted in 20% to 30% loss of skills across all COR Advantage domains.
- Results of the Brigance III, which assesses the ***Language Development***, ***Cognitive Development***, and ***Physical Development*** of children in six month increments, showed 64% of students entering UPK were functioning within the normal range, or as possibly talented. However, 37% of students were identified as being at-risk and possibly in need of a more formal evaluation or close monitoring.
- Student growth within the social-emotional realm was assessed by the T-CRS. The ***Task Orientation*** and ***Behavior Control*** domains had very small changes from the beginning to the end of the year.
- At the fall observation of the T-CRS, 25% of students entered UPK with at least one domain within the at-risk spectrum, the expected rate would be 15%. One percent (1%) of children (23) entered with risks in all four T-CRS domains. At spring observation, 24% of students were observed to have at least one risk, and less than 1% of children (7) had risks in all four domains. This suggests the need for a more concerted effort to improve children's social and emotional skills, such as using the Pyramid Model.
- For the third consecutive year, RECAP has analyzed relationships between student attendance and performance. In both the COR Advantage and the T-CRS there were significant advantages to students attending greater than 90% (high attenders). High attenders showed greater gains in ***Approaches to Learning***, ***Language, Literacy, and Communication***, ***Mathematics***, and ***COR Advantage Overall*** than those who were severely chronically absent. Also, high attenders were more school ready (i.e., 60% ready) when compared to their peers who were chronically absent (~50% ready) or severely chronically absent (~40% ready). Male and female students attended school at the same rate.

Classrooms

- The 2015-16 school-year serves as a benchmark in regards to the implementation of the ECERS-3, a significantly revised and improved observation tool of classroom quality. The baseline mean is 5.2. At the time of publication, no comparative data exists within the current early childhood literature to benchmark these results with other communities.
- RECAP teachers maintained a high level of classroom quality, as measured by the CLASS, with an overall mean of 5.4, which is similar to last year (5.6). However, ***Instructional Support,*** specifically *Concept Development, Quality of Feedback and Language Modeling* sub-domains, remain opportunities for improvement.
- RECAP continues to invest a substantial amount of time and resources into professional development. In 2015-16, the professional development activities included a variety of training opportunities offered to UPK teachers and administrators. Training topics included, but were not limited to: an orientation to the RECAP system of assessment; scope and sequence of Math and English Language Arts curricula; an introduction to ECERS-3; an introduction to CLASS; a refresher training on CLASS; how to use and score the COR Advantage; a refresher on how to use and score the COR Advantage; and the use of the COMET attendance system. These activities are fundamental to ensuring high quality classrooms.

RECAP's Major Findings for 2015-2016—Expanded Pre-Kindergarten (EPK)

Students

- Beginning in January 2016, close to 600 three year olds began full-day programming. For some students, this marked the first time they were enrolled in a full-day structured classroom program. Overall, students made large significant gains across all eight domains of the COR Advantage for the 6 months between January and June.
- Students were also screened with the Brigance III. Incoming three year old students performed extremely well with 79% of students falling within the normal range or possibly talented categories. This was an unexpected "Bright Spot" and suggests that this was either an exceptional cohort, or children in Rochester are not that far behind academically as three year olds. The 2016-2017 school year data will help clarify this finding.
- The social-emotional health of three year old children was measured by the T-CRS. The pattern of change for EPK students was similar to UPK students. The largest gains were made on ***Assertive Skills*** (d=.26) followed by ***Peer Social Skills*** (d=.12). ***Task Orientation*** and ***Behavior Control*** showed no changes. These results also suggest the need for more comprehensive attention children's social and emotional learning.

Classrooms

- Similar to UPK the 2015-16 year will serve as a baseline for EPK ECERS-3. The EPK overall ECERS-3 mean was 5.3, very similar to UPK.
- The overall CLASS mean was also 5.3, again very similar to the UPK overall CLASS mean. It is encouraging to note that classroom quality as measured by the CLASS ***Emotional Support***, ***Classroom Organization***, and ***Instructional Support*** domains were also similar to that of UPK classrooms, even though for a great majority of EPK teachers, this marked their first year having CLASS observations and training.
- The intensive training and coaching provided to EPK teachers regarding their classroom environments and the outcomes of that training are "Bright Spots" that should be applauded.

Parents and Families—UPK and EPK Programming

- Parent / family involvement has remained stubbornly stable and has not improved, a fact we have known and attempted to address for over six years. This situation required considerable re-thinking. In 2015-16 the community, through ECDI, Roc the Future, and the RECAP team, spent considerable hours devoted to this issue. The changes we, as a community, are implementing now and in the coming years reflect a new direction. Of paramount importance is supporting ***authentic family engagement*** and beginning in 2017 we may start to see the results of these efforts, but *real* changes are not anticipated until 2020 and beyond.

- The most consistent and positive outcome is that parents and families are highly satisfied with their children's pre-k program. Two surveys conducted in 2016 had 1,000 parent responses and confirmed 2015 results. When parents were asked to assign grades to their children's classrooms and teachers, more than 80% gave "A" or "A-"; and 96% gave "A," "A-," "B+" or a "B." These are exceptionally high satisfaction rates.

- The satisfaction rates for parents of the new EPK program are also strikingly high and they mirror the same approval rates as UPK.

- For the third year, ***Teacher-Parent Communication Data*** were tracked and reported via COMET, a web-based system, as well as via RCSD student information system, PowerSchool -. However, there were issues related to accuracy of data, as we noted in the past two years. While we document an approximate 100% increase in teachers' reporting family contacts, further investigation reveals reporting to be very low in the actual count, which could be as high as approximately 80,000 instances of communication. We expect to provide a full and accurate assessment of parent-teacher communication data next year.

Introduction to RECAP

RECAP began in 1992 as a collaboration of the United Way of New York State, the Rochester Area Community Foundation, the Rochester City School District (RCSD), the Center for Governmental Research (CGR), Action for a Better Community (ABC), and Children's Institute. Since its inception, one of RECAP's overall guiding tenets has been to continuously promote, ensure, and improve the quality of pre-k classroom experiences through the use of an integrated and comprehensive information system. In addition to providing information to enhance children's, teachers', and systems' performance, RECAP works to translate collected data into usable information for parents, providers, and policy makers. This has resulted in informed and targeted interventions for children, professional development activities for providers, and changes in policy by funders and governments. Throughout its history, RECAP has collaborated with many partners, including area foundations, local governments, public and parochial schools, Head Start programs, and early education teachers at multiple schools and community-based organizations.

Each year, RECAP provides important services – primarily to providers and policy makers – which include:

- Professional development for teachers and program administrators in the use of child screening measures, assessments, and rating scales and the interpretation of reports.
- Efficient and user-friendly data collection and feedback reports, with reports looped back to teachers and directors. Primarily this is accomplished using COMET® system reports, which provide instant feedback, and paper reports, when desired, at the child, classroom, program, and system levels.
- Training teachers and observers on fidelity implementation and quality indicators of the standards assessed with the Early Childhood Environment Rating Scale, third edition (ECERS-3) and the Classroom Assessment Scoring System (CLASS).
- Twice monthly review and planning meetings with community-based organizations, ABC Head Start, RCSD, and other early education community leaders and evaluators to analyze and synthesize available information, recommend changes, and monitor the systematic quality of early education in Rochester.
- Quarterly Community Advisory Group meetings to facilitate support and direction from and to the community.
- Community presentations of aggregate results to facilitate understanding of outcomes for pre-kindergarten children and to support informed decision making.

In sum, information-based decisions are integrated into a continuous improvement system that strives to ensure and maintain high quality pre-k programs and improve students' overall performance and outcomes.

Consistently, RECAP uses reliable and valid measures to assess program quality and student outcomes. Throughout RECAP's 23-year history, the ECERS (or its updated version, the ECERS-3) was used to study classroom quality. Starting seven years ago, the CLASS, a relatively "new" measure at that time, was piloted with random subsamples of RECAP classrooms. The pilot lasted from 2009 to 2012; approximately 30 classrooms per year, 95 classrooms overall, were randomly selected to receive CLASS training and observations. During the pilot phase, analyses repeatedly showed that, while both the ECERS and CLASS assessed classroom quality, the quality indicators within the CLASS and those within the ECERS-R are different. Therefore, for the 2012-2013 school year, all RECAP classrooms were observed with the CLASS instrument, as well as the ECERS-R. The 2015-16 school year marks the fourth year that the CLASS instrument was used to assess all RECAP classrooms.

To measure levels of students' competencies and needs within academic, motoric, and non-cognitive or social/emotional domains, the Child Observation Record - Advantage (COR-Advantage) and the Teacher-Child Rating Scale (T-CRS) were completed in the fall and again in the spring. In keeping with national trends, state requirements, and local needs and for screening children early in the school year, the Brigance Early Childhood Screen III (Brigance III) was used for the second time this year. Children's attendance and parental participation were also recorded by school staff, primarily teachers, each school day.

The level of parents' perceived involvement with multiple facets of their children's education was evaluated using the Family Involvement Questionnaire (FIQ). The FIQ is a parent completed questionnaire. Parents report their time spent in their children's pre-k classrooms, with their children's teachers, and participating in educational activities with their children at home. The FIQ was completed by parents at the beginning and at the end of the school year. Teacher-parent communications were record by pre-k programs via the web-based COMET Informatics system.

Table 1 below summarizes the screening and assessment measures collected and the total number of assessments completed during the 2015-16 school year.

Table 1. RECAP variables, measures, numbers assessed, and method of assessment

RECAP 2015-16 Variables, Measures, Number Assessed and Methods			
Variables	**Measures**	**Completed Assessments in 2015-16**	**Method**
Classroom Environment Quality	ECERS-3	149	Classroom Observation by Independent Observer
Quality Teacher and Student Interactions	Classroom Assessment Scoring System (CLASS)	173	Classroom Observation by Independent Observer
Academic, Motor, and Social	COR Advantage (COR +)	2,187	Teacher Observation
School, Emotional, and Behavioral Adjustment	Teacher-Child Rating Scale (T-CRS)	1,770	Teacher Observation
Academic Skills, Physical Development, and Health	Brigance Early Childhood Screen III	1,475	Child Direct Performance
Parent Involvement	Family Involvement Questionnaire (FIQ)	358	Parent Survey
Program Evaluation	Early Childhood Parent Survey (2.0)	1,000	Parent Survey

RECAP student demographic information is presented in Table 2 and Table 3. UPK student attendance data is represented in Table 4.

Table 2. RECAP UPK student demographics

RECAP 2015-16 UPK Student Demographics		
Gender	Male	49%
	Female	51%
Race/Ethnicity	Black/African American	62.%
	White Caucasian	14%
	Hispanic/Latino	20%
	Asian	3.0%
	Native American	<1%

Note: Sample represents the number of children that attended at least one day of pre-k. n=2187

Table 3. RECAP EPK student demographics

RECAP 2015-16 EPK Student Demographics		
Gender	Male	51%
	Female	49%
Race/Ethnicity	Black/African American	54%
	White Caucasian	11%
	Hispanic/Latino	9%
	Asian	2%
	Native American	<1%
	Other	1%
	Missing Information	23%

Note: Sample represents the number of children that attended at least one day of EPK. n=752

Table 4. RECAP UPK student attendance data

2015-16 RCSD UPK Student Attendance				
	<=80%	81%-89%	>=90%	Totals
Frequency	843	501	843	2187
Percent	39	22	39	100

Program Quality – ECERS-3

For 20+ years, RECAP has documented the quality of pre-kindergarten classroom environments in the Rochester area using the Early Childhood Environmental Rating Scale (ECERS). In 2005, the developers of the ECERS released a revised edition of the instrument, the ECERS-R (Harms, Clifford, & Cryer, 2005). Upon its release, the ECERS-R was immediately incorporated into RECAP's pre-kindergarten program evaluation process. The ECERS-R is nationally recognized as a leading observation-based instrument for assessing and evaluating the early childhood classroom environment. In 2015, the ECERS developers released the ECERS-3, which represents a major revision of the ECERS-R. Upon its release, RECAP adopted ECERS-3 to assess not EPK and UPK classrooms. Teachers were offered multiple opportunities to attend training opportunities to learn more about the new ECERS-3.

The ECERS-3 consists of 35 items that are scored by independent observers on a 7-point scale, where indicates "Inadequate" quality and 7 represents "Excellent" quality. The 35 items are organized in 6 subscales: Space and Furnishings, Personal Care Routines, Language and Literacy, Learning Activities, Interactions, and Program Structure. Unlike the ECERS-R, which required close attention to the number of accessible materials provided to children within the classroom, the ECERS-3 has shifted the focus of the observation from materials to how teachers use the materials found within their classrooms to engage and stimulate student learning with an emphasis on pre-academics and interactions (Harms, Clifford, & Cryer, 2015). Other specific changes incorporated in the ECERS-3 include five new items in the Language and Literacy subscale, three new math items, which focus on concept development, and the elimination of parent related items as they were not directly assessed, but completed based on observer-teacher interview and typically showed little variation among teachers.

From the beginning of its use in RECAP, the ECERS and, subsequently, the ECERS-R consistently showed that almost all four-year-old classrooms in Rochester achieved at least "good" ($\geq$ 5.0) quality, as measured by the ECERS-R, with many performing in the excellent range (6.2-7.0) for 3 or more years in a row. The continual focus on, and support of, the professional development of classroom teachers by RECAP and its participating programs resulted in an average rating ranging from "very good" to "excellent" (5.8-6.2 out of 7) on the ECERS-R for the past ten years. For each of the past eight years, the average ECERS-R score was 6.1 or higher (Infurna et al., 2015).

The consistently high ECERS-R scores of the classrooms participating in RECAP prompted a change to the evaluation procedures used to assess classrooms' quality. In the 2007-2008 school year teachers were allowed to receive "exemption" from the annual ECERS-R assessment by achieving overall scores of at least 6.5 for five consecutive years. Teachers with this "exempt" status were no longer required to have an ECERS-R observation for the following three consecutive years. After additional analyses and observations were conducted on teachers' ECERS-R scores, it was found that teachers who had obtained scores of 6.2 or higher over the course of three consecutive years had mastered the ECERS-R standards. Therefore, in 2012-2013 the "exempt" criterion changed to require a total ECERS-R score of at least 6.2 for three consecutive years, which is the current exemption criterion to earn the "exempt" designation.

Similar to earlier "exempt" status procedures, teachers retain their exemption status for three years, at which time an observation is completed. If classroom quality is scored as 6.2 or higher "exempt" status is in place for an additional 3 years. If classrooms do not meet the 6.2 threshold, they are observed annually until they meet the exemption criteria again. To date, no teacher who received exempt status has lost this status upon re-observation. In 2015-2016, 27 UPK teachers had exempt status.

In prior years' reports, we included results on the alpha reliability of the scales and inter-rater reliability of observers of the ECERS-3. This information is now reported in the Statistical Supplement. In summary, observers must maintain inter-rater reliability of ≥85% (agreements/(agreements/disagreements)) X 100) before they conduct independent observations and reliability checks are made on ~20% of all observations.

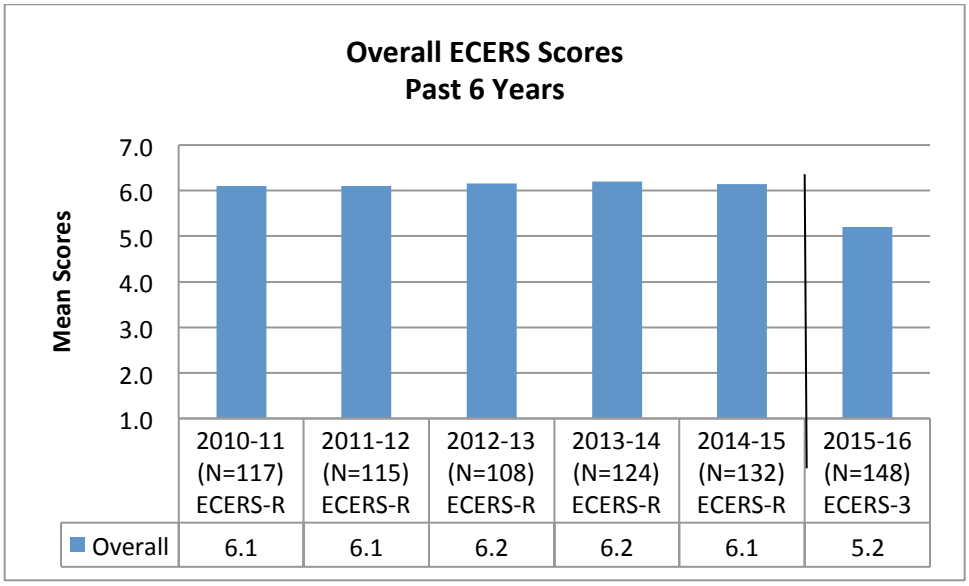
ECERS-3 Aggregate Results for 2015-2016

For over ten-years, ECERS-R aggregate results for RECAP have reflected the high quality of pre-kindergarten classrooms serving 4-year olds in Rochester. The ECERS is fully incorporated into the RECAP assessment and continuous improvement system and serves as both a local and a national barometer of overall classroom quality. As noted above, Rochester's pre-kindergarten classrooms remained within the "very good" to "excellent" range for over a decade. This high level of quality is an expectation within the Rochester community.

Figure 1 depicts the previous six years of ECERS scores in Rochester; the five most recent years of ECERS-R for UPK classrooms performance and the 2015-2016 ECERS-3 scores for UPK and EPK.

The 2015-2016 year marked the first year's implementation of the ECERS-3. In total, 148 EPK and UPK classrooms were assessed by the ECERS-3. The 2015-16 ECERS-3 mean overall score was 5.2. Direct comparison of results from the ECERS-R to the ECERS-3 is challenging, at best, as the two versions are quite different. As noted above, the ECERS-3 has transitioned to placing a greater emphasis on teacher-child engagement, as opposed to the availability of specific materials.

Figure 1. Six years of mean overall RECAP ECERS results

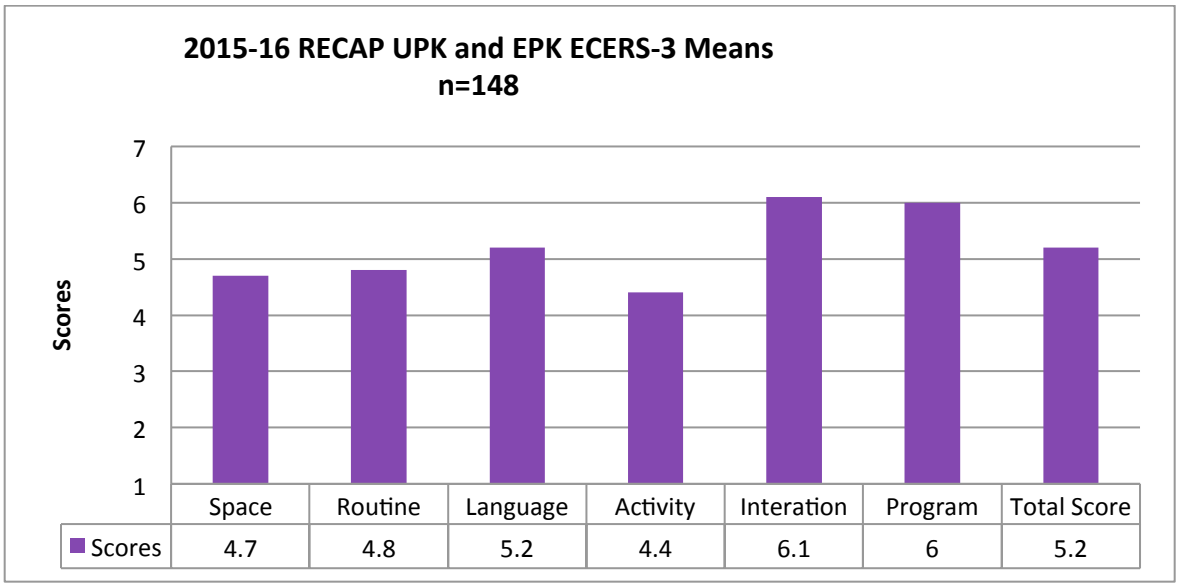


The overall average (mean) score the previous five years on the ECERS-R was 6.1. With the transition to the ECERS-3 in 2015-16, the overall total score was 5.2. With the difference in tools, a direct statistical comparison is not recommended because the ECERS-3 does not measure the same items measured by the ECERS-R.

ECERS-3 Means by Area: A First Year Perspective

When it was decided that RECAP would adopt the ECERS-3 as a tool of program evaluation, numerous training opportunities were provided within the community. Two Children's Institute employees received training from the ECERS-3 authors on the new ECERS-3. Upon their return to Rochester, a colossal undertaking was put in motion to train observers, teachers, classroom staff, directors, and technical support teachers. Beginning in August 2015, UPK teachers and classroom staff received a 3-hour introductory professional development training on what made up the new ECERS-3 observation tool. Continuing into the fall and spring 2016, teachers were provided with numerous training opportunities. With the implementation of full day EPK three year old programming in January 2016, 47 new EPK teachers received ECERS-3 training as well. In total, over 180 classroom teachers and all technical support teachers and program directors staff received training on the ECERS-3. Figure 2 depicts 2015-16 RCSD combined (EPK and UPK) ECERS-3 subscale and total mean scores.

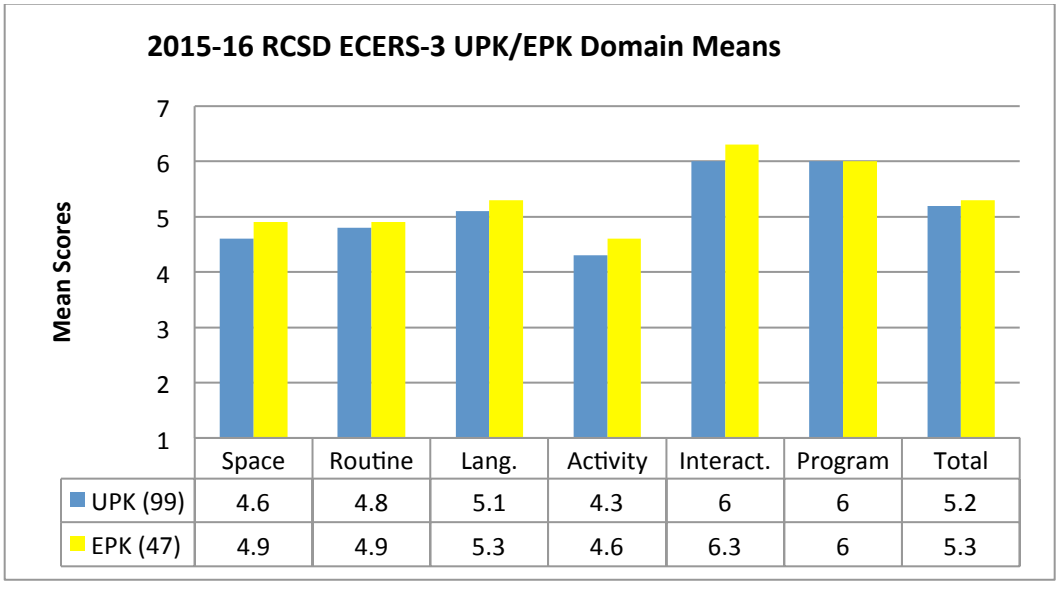
Figure 2. 2015-16 RECAP UPK and EPK ECERS-3 subscale and total mean scores



Comparison of RECAP UPK and EPK ECERS-3 Scores

Figure 3 depicts UPK and EPK group ECERS-3 subscale and total scores. Overall, 99 UPK classrooms and 47 EPK classrooms were assessed using the new ECERS-3 assessment tool. It must be noted that 27 UPK teachers were "exempt" based on previous ECERS-R observations and did not have ECERS-3 observations this year.

Figure 3. RECAP 2015-16 ECERS-3 UPK and EPK subscale and total mean scores



Statistically, no differences exist between EPK and UPK teachers across the six subscales and total ECERS-3 scores. Even though the scores are not statistically different, it is noteworthy that all of the EPK subscale scores, except for Program, which is equivalent, are slightly higher than the UPK subscales and total score. New to RCSD and RECAP, as a group, EPK teachers did as well as UPK teachers that have previously been observed by the ECERS-R. In rank order from highest to lowest, classroom ***Interaction*** and ***Program*** standards were at or higher than 6.0 (very good), ***the Language and Literacy, Routine*** and ***Space*** standards were near 5.0 (good) and the ***Activity*** subscale standards were in need of most improvement (mean = 4.5).

Summary and recommendations:

In sum, Figures 1, 2, and 3 detail RECAP EPK and UPK classrooms' scores on new ECERS-3 standards. At present, because the ECERS-3 is recently available, there are no published evaluations or research we could find to benchmark RECAP classroom against, so it is difficult to put in context the performance of Rochester's classrooms in comparison to classrooms nationally.

However, at the local level recognize that there is room for improvement on all of these new standards. Each program and each observed teacher now has a baseline from which to improve. The ECERS-3 observational protocol provides detailed analyses of 468 indicators and which ones were met and which ones were not. At the simplest level of a continuous improvement model, to improve, teachers and programs need to maintain those indicators already met and address those that have not yet been mastered. To change behaviors and meet new standards, "awareness" by itself is not enough. Intentional plans are needed. The good thing is that in Rochester, technical support teachers as well as directors and principals are available to each and every teacher and program to help provide resources to make improvements.

At the community level, we recommend that the EPK / UPK Professional Development Committee review these results and design relevant training opportunities for teaching staff. *Specific professional development should be focused on the* ***Activity****,* ***Space****,* ***Routine****, and* ***Language*** *domains.*

Program Quality – CLASS

Classroom Assessment Scoring System (CLASS)

The **Cl**assroom **A**ssessment **S**coring **S**ystem – Pre-k (CLASS) (Pianta, La Paro, & Harme, 2008) is an observational tool that is used to illuminate the complex ways in which the relationships between pre-kindergarten children, their peers, their teachers, and the classroom environment can affect students' instruction and learning. The quality-of-feedback loop is also assessed by the CLASS and is, along with the relationships formed in the classroom, a critical part of the process for supporting and encouraging continuous academic growth in young children. As Howes et al., state:

> Teacher-child relationships that provide young children with a sense of acceptance and security and through which teachers and children are actively involved with one another are more likely to support engagement in and cooperation with the activities and instruction provided by the teacher.

To be more specific, highly trained and reliable (interrater reliability [a/(a+d)] $\geq$ .85) independent observers use the CLASS to assess program quality by rating classrooms on 10 dimensions from which three domains were empirically derived: ***Emotional Support***, ***Classroom Organization***, and ***Instructional Support*** (Pianta et al., 2008). Like other observational tools used in early childhood, CLASS items are rated on a 1-to-7 scale, with 1 indicating the item being rated is minimally characteristic or low quality, and 7 as highly characteristic or excellent quality. (Note: For this report the ***Negative Climate*** dimension was reverse scored so that a higher value is indicative of a higher quality program, thus aligning it with the other 9 dimensions.)

In essence, the CLASS provides the standards needed to enhance the overall understanding of what high quality early childhood programs, specifically EPK and UPK classrooms, should look like. The CLASS also provides teachers, school district administrators, and others in early childhood education with additional information regarding the interactive climate of the early childhood classrooms. Use of the CLASS enhances RECAP's understanding of the classroom quality domains, which are not rigorously assessed as part of the newly implemented ECERS-3. As a result, the CLASS is fully integrated within RECAP. By using both the CLASS and the ECERS-3, a more comprehensive picture of the classroom quality has emerged, making it easier for RECAP and its partners to identify and address areas of classroom quality that need improvement.

CLASS UPK and EPK Combined Results

This is the fourth consecutive year the CLASS was fully implemented in all UPK (n=126), and EPK classrooms (n=47). Combined results of UPK and EPK (n=173) are provided in the remainder of this section and disaggregated results from 3 year-old EPK and 4 year-old UPK classes are discussed later in the next sections.

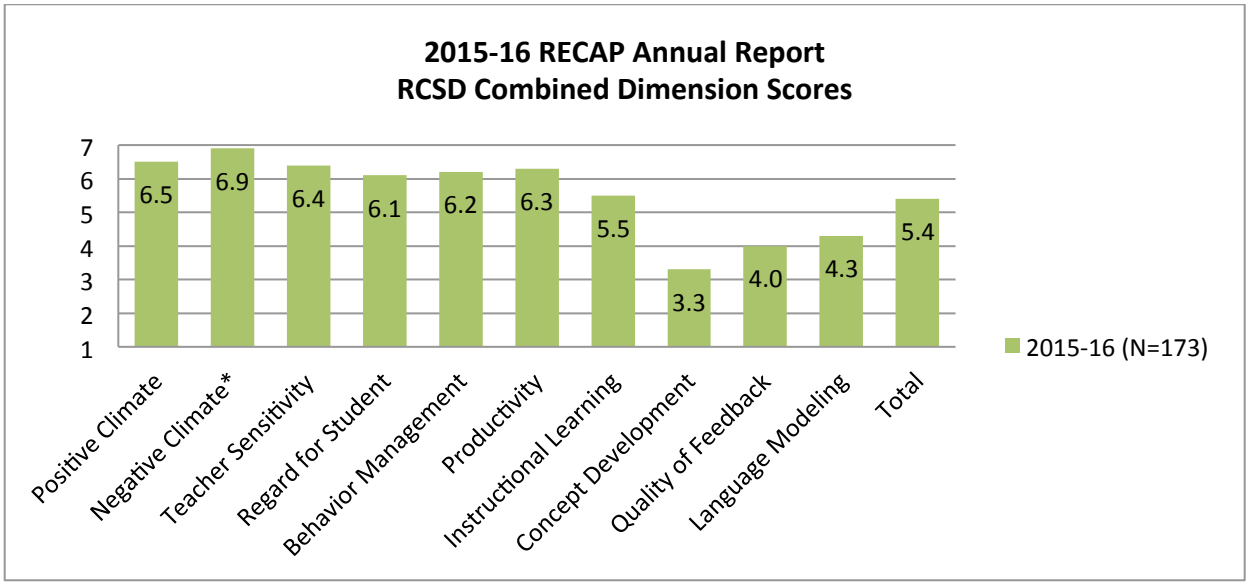
The ***Overall*** CLASS mean for EPK and UPK classrooms combined was 5.4, see Table 5. The ***Emotional Support*** domain mean was 6.5 indicating that RCSD and CBO early childhood teachers provide a nurturing environment for their children. The ***Classroom Organization*** mean was 6.0, suggesting that pre-k teachers are able to maintain a productive classroom environment within which children are able to follow the daily routine without many classroom behavior issues. The ***Instructional Support*** domain mean is weakest at 3.9. This domain continues to need additional professional development emphasis.

Table 5. Combined UPK & EPK CLASS scores by domain

2015-16 RECAP Combined UPK & EPK CLASS Scores by Domain			
Domain	**N**	**Mean**	**Std. Dev.**
Emotional Support	173	6.5	0.46
Classroom Organization	173	6.0	0.66
Instructional Support	173	3.9	1.03
Overall CLASS Score	173	5.4	0.63

Figure 4 reports the combined 10 dimension scores that make up the CLASS. Of note, the ***Instructional Learning Formats*** dimension is slightly lower than the other dimensions in the ***Emotional Support*** and ***Classroom Organization*** domains, i.e., first seven dimensions. The ***Instructional Learning Formats*** dimension indicates how teachers facilitate and provide interesting activities and materials so that students are engaged with the learning opportunities occurring in the classroom. The ***Concept Development*** dimension of the CLASS had the lowest scored mean of 3.3. ***Concept Development*** dimension measures how teachers use instructional discussions and activities to promote higher-order thinking skills of students' in their classrooms. A focus of rote instruction is frowned upon by the CLASS authors (Pianta et al., 2008) and most early educators.

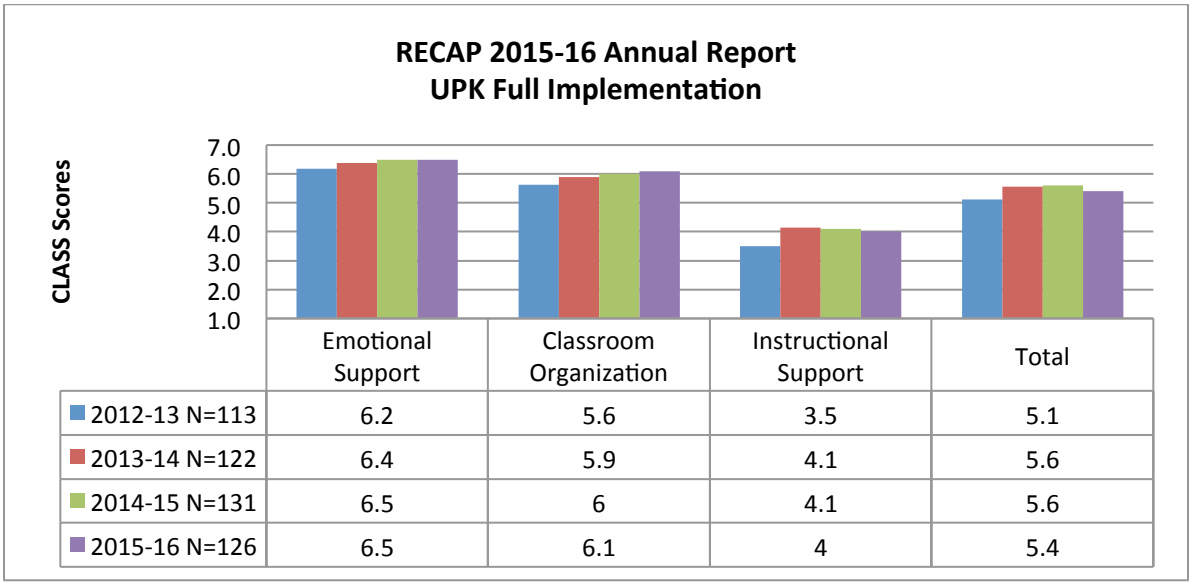
Figure 4. Combined UPK & EPK CLASS scores by dimension



UPK CLASS Performance

The 2015-16 school year marked the fourth consecutive year CLASS was used to assess all RECAP UPK classrooms. In total, 126 CLASS observations were conducted across RCSD, Head Start and center based UPK classrooms The ***Emotional Support*** Domain remained consistently high with a mean score of 6.5. The ***Classroom Organization*** domain saw a slight increase from the 2014-15 school year. The ***Instructional Support*** domain dropped slightly, to 4.0 from two previous years of 4.1. The ***Overall*** CLASS mean dropped slightly from 5.6 to 5.4. A possible explanation for the small decline in ***Overall*** Class involves UPK teacher attrition (retiring, transitioning to another grade level, or leaving the district).

Figure 5. UPK CLASS means by domain



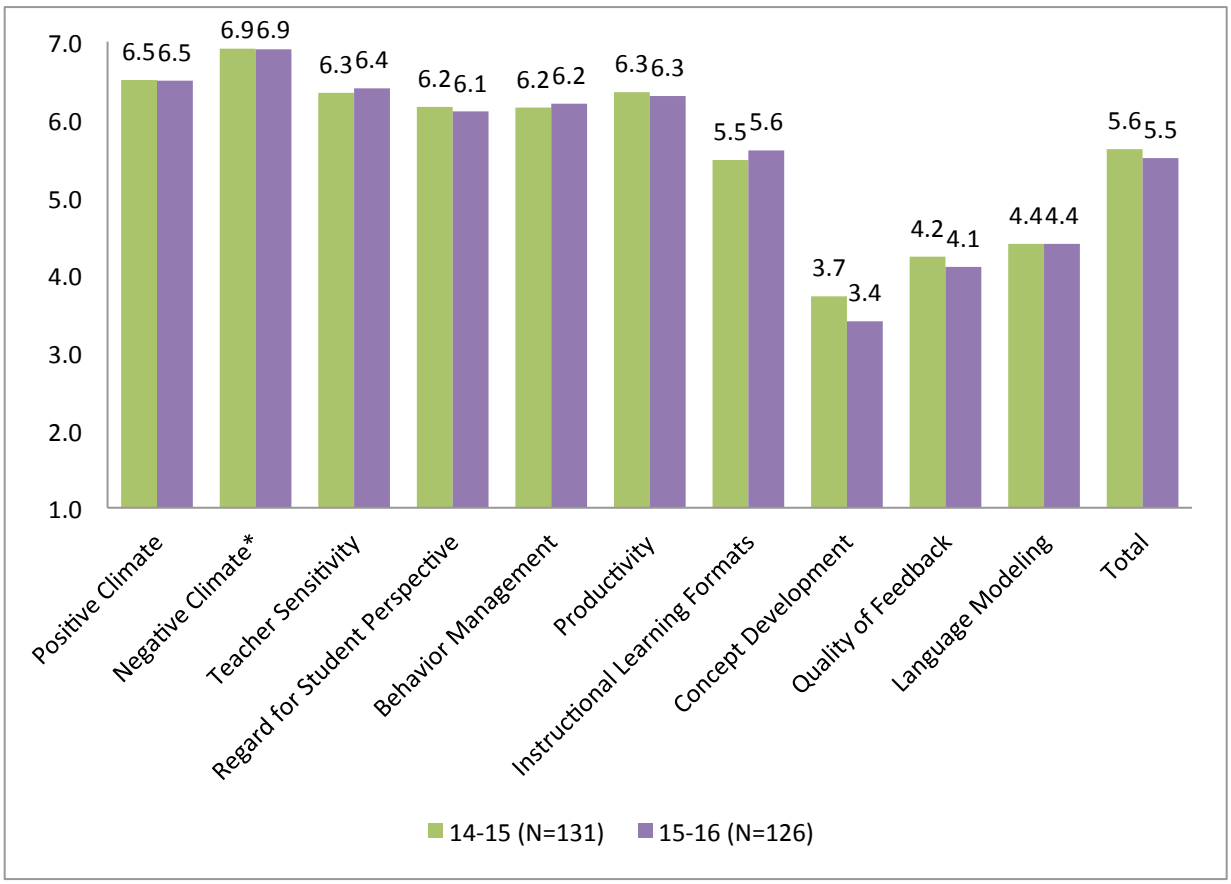
	Emotional Support	Classroom Organization	Instructional Support	Total
2012-13 N=113	6.2	5.6	3.5	5.1
2013-14 N=122	6.4	5.9	4.1	5.6
2014-15 N=131	6.5	6	4.1	5.6
2015-16 N=126	6.5	6.1	4	5.4

The dimensions within ***Emotional Support*** domain remained at or above 6.0, see Figure 6 for performance by dimension. As in previous years, the ***Negative Climate*** dimension remained the best dimension by maintaining its near perfect score of 6.9. The ***Positive Climate*** dimension maintained its consistently high score of 6.5. ***Teacher Sensitivity*** and ***Regard for Student Perspective*** means for the 2015-2016 academic year were each within .1 of the results obtained the prior year.

Results associated with the second domain of the CLASS assessment, ***Classroom Organization***, saw a slight increase of .1 from the 2014-15 school year, to 6.1 for the 2015-16 school year. The components of this domain, ***Behavior Management***, ***Productivity***, and ***Instructional Learning Formats*** were all scored within .1 of their prior-year values for the 2015-16 school year.

Instructional Support continues to be the least strong domain for UPK classrooms (mean = 4.0). For the past four years this domain has been a focal point for professional development and training. From last year to this year, scores on one dimension ***(Quality of Feedback)*** dropped slightly from 4.2 to 4.1, ***Language Modeling*** remained the same at 4.4 and ***Concept Development*** had a loss from 3.7 to 3.4, see Figure 7.

Figure 6. 2015-16 UPK CLASS means by dimension



EPK CLASS Performance

For a majority of EPK teachers, this year was their first year being assessed by the CLASS. The ***Overall*** CLASS mean for the 47 classrooms was 5.3, a score similar to that obtained from the original UPK pilot implementation five and six years ago (Infurna et al., 2015). See Figure 7 for EPK CLASS means by domain and Figure 8 for EPK CLASS means by dimension.

The ***Emotional Support*** domain mean score was 6.4. The ***Positive Climate*** dimension score was 6.5. The ***Negative Climate*** score was 6.9, a remarkably high score. The ***Teacher Sensitivity*** dimension score was 6.3, and the ***Regard for Student Perspective*** dimension score was 6.1. Performance on all the ***Emotional Support*** domain dimensions were exceptionally good.

The ***Classroom Organization*** domain mean score was 5.9. The ***Behavior Management*** dimension score was 6.0, while the ***Productivity*** and ***Instructional Learning Formats*** scored 6.2 and 5.4 respectfully. This Classroom Organization domain was strong, but not as strong as ***Emotional Support*** and further classroom and program review and improvement actions regarding the dimensions are merited.

The ***Instructional Support*** domain mean score was 3.6, like UPK and prek programs nationally the lowest. Since EPK teachers began in January, 2016, they were limited in the professional development opportunities regarding he CLASS. The ***Concept Development*** dimension score was 3.1, while ***Quality of Feedback*** and ***Language Modeling*** were rated at 3.7 and 4.0 respectfully.

Figure 7. 2015-16 EPK CLASS means by domain

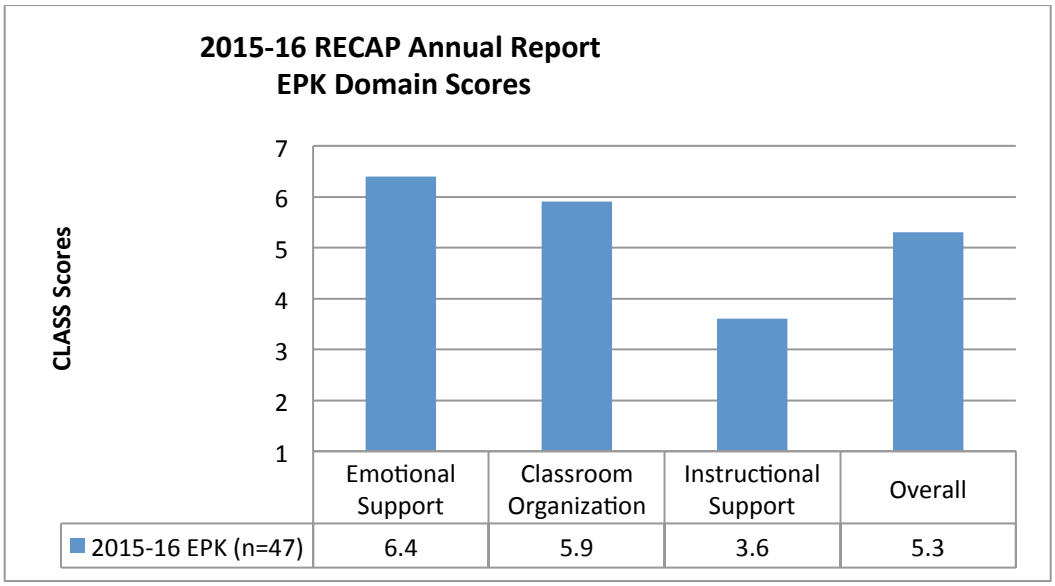
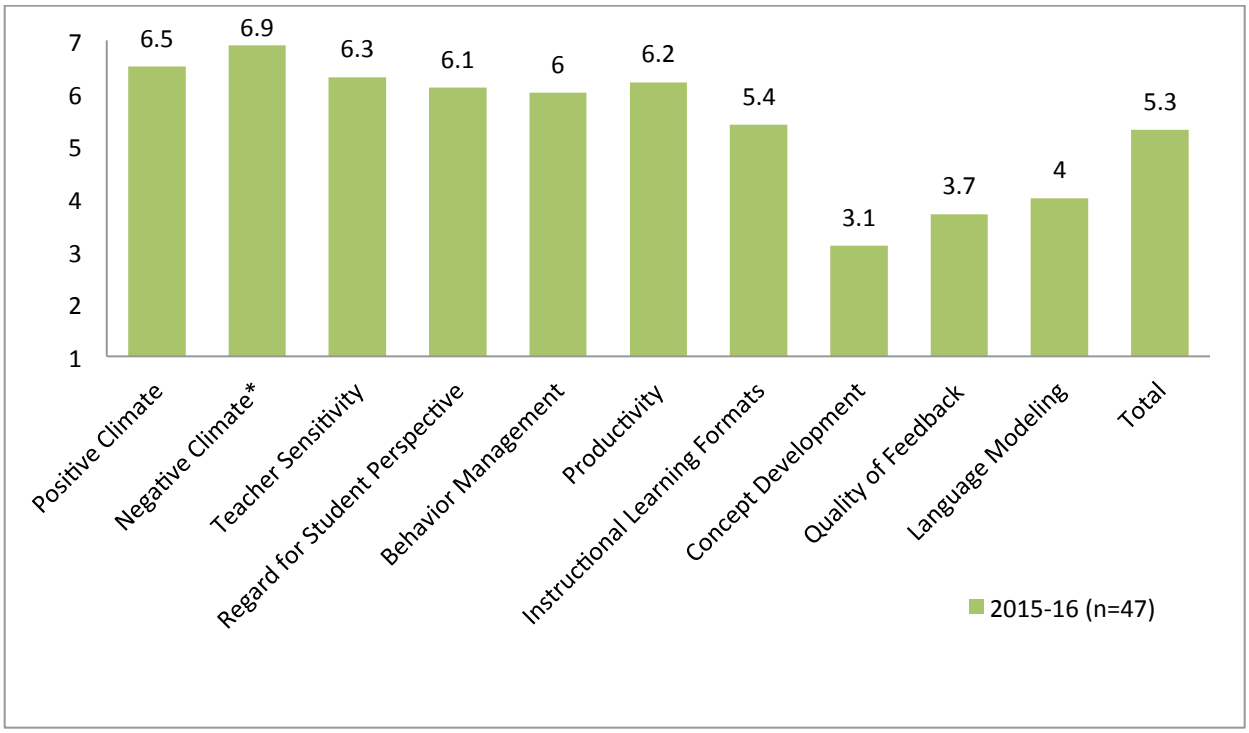


Figure 8. 2015-16 EPK CLASS means by dimension



Summary and recommendations:

RECAP classrooms have continued to demonstrate "very good" to "excellent" quality on ***Emotional Support****, and* ***"****very good" quality on the* ***Classroom Organization*** *domain, as measured by the CLASS. The results for the* ***Instructional Support*** *domain again provide evidence that this area needs focused efforts for improvement.*

It is encouraging and important to note that the Classroom Organization domain rose slightly in 2015-16, with observed growth over the past four years. The Emotional Support domain, although not showing growth in 2015-16, remained consistent compared to the 2014-15 school year. These results support the previous professional development and program efforts to improve the quality indicators measured by the CLASS.

Considering the above, we recommend that the Professional Development Committee, program directors, and teachers continue to focus on improving EPK and UPK classroom quality, especially in the area of ***Instructional Support****. Based upon the slight drop of performance from 2014-15, a target of >6.2 for Classroom Organization and >4.5 for Instructional Support are within the reach of all RECAP EPK and UPK classrooms with the ultimate recommended target being >6.0 for all classrooms for all domains.*

Specific recommendations:

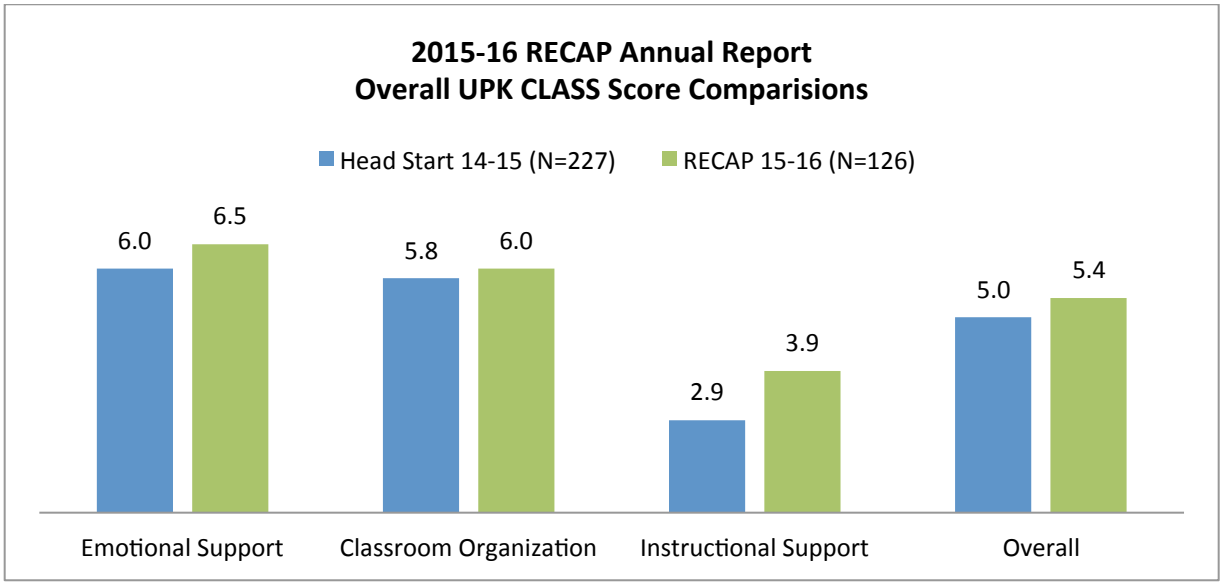
- *Increased focus on Instructional Support with additional professional development offerings provided by the PD committee and Technical Support Teachers.*
- *Assign mentor teachers to new teachers, < 5 years of EPK/UPK teaching experience, for specific coaching on Instructional Support standards.*
- *Provide specific professional development with a focus on the **Concept Development** dimension*
- *Bridge Pyramid Model strategies into **CLASS** professional development offerings*
- *Bring a classroom team approach to the **Concept Development** dimension—coaching and mentoring not only for lead teachers, but for assistant teachers as well*
- *Provide the technical support teachers with greater support / professional development on what high performing **CLASS** classrooms look like in order to provide not as high performing classrooms with specific strategies and assistance for greater teacher outcomes*

Comparing RECAP's CLASS Results to Other Early Childhood Education Programs

Since Pianta et al. (2008) released the early childhood education version of the CLASS, it has become one of the most widely used assessment tools in early childhood education programming (Infurna et al., 2015). Although it is a popular and highly implemented continuous improvement assessment used in pre-k programs across the country, it has been difficult to find empirical studies published on other programs. The one exception is Head Start, which releases CLASS data at the conclusion of every school year. Table 6 compares Head Start to RECAP UPK means by dimension.

Compared to 2014-15 National Head Start (U.S. Department of Health and Human Services, Office of Head Start, 2015) results, it is clear that RECAP classrooms have very strong Emotional Support, Classroom Organization, and Instructional Support domain performance environments and are significantly better, as a group, than the classrooms from the most recent National Head Start reports. Figure 9 depicts National Head Start and RECAP UPK domain scores.

Figure 9. Head Start and UPK CLASS domain comparisons



Compared to the 2015 National Head Start Overall CLASS scores, RECAP teachers had higher scores in Emotional Support, Classroom Organization, Instructional Support, and Overall CLASS scores from 2015-16. Most notably, RECAP Instructional Support scores are 1.0 points higher than that of the National Head Start Scores.

In summary, to date RECAP classrooms are relatively strong when compared to others nationally. However, this does not negate the opportunity for RECAP programs to grow in the ***Classroom Organization*** *and* ***Instructional Support*** *domains.*

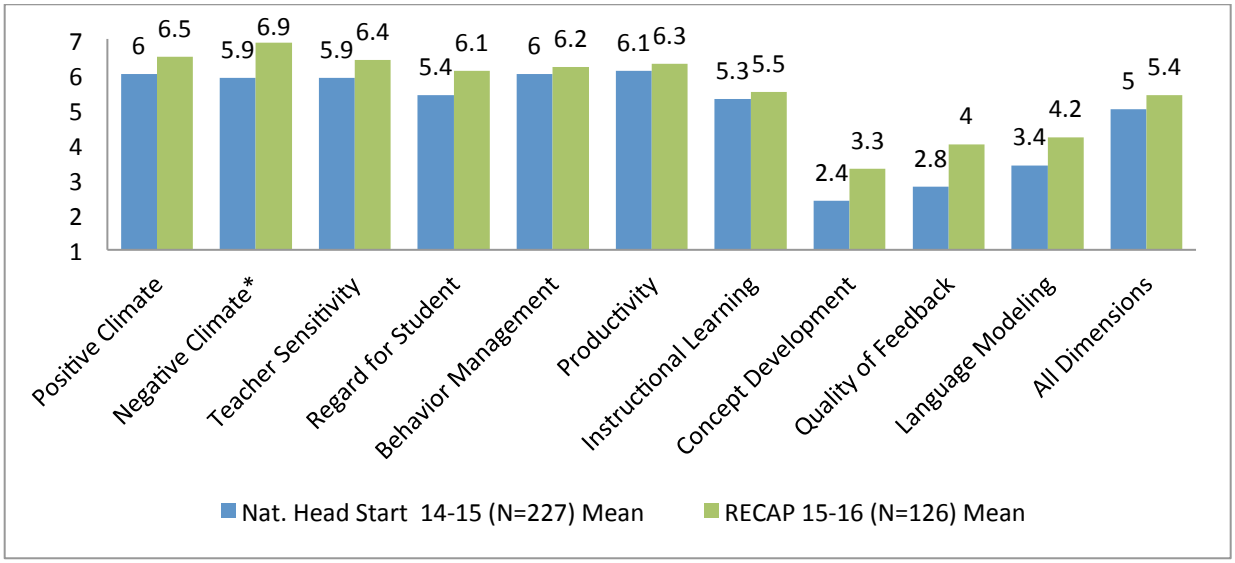
Table 6. Head Start and UPK CLASS means and standard deviations by dimension

Domains	Dimension	Nat. Head Start 2014-15 (N=227)		RECAP 2015-16 (N=126)		
		Mean	SD	Mean	SD	*t*
Emotional Support	Positive Climate	6.0	0.36	6.5	0.57	
	Negative Climate*	5.9	0.09	6.9	0.31	
	Teacher Sensitivity	5.9	0.41	6.4	0.71	
	Regard for Student Perspective	5.4	0.49	6.1	0.69	
Classroom Organization	Behavior Management	6.0	0.37	6.2	0.79	
	Productivity	6.1	0.39	6.3	0.70	
	Instructional Learning Formats	5.3	0.47	5.5	0.85	
Instructional Support	Concept Development	2.4	0.57	3.3	1.07	
	Quality of Feedback	2.8	0.57	4.0	1.12	
	Language Modeling	3.4	0.59	4.2	1.10	
Total	All Dimensions	5.0	0.40	5.4	0.60	7.6**

Note *Negative Climate rescored
** $p < .05$

National Head Start means have historically risen with each reporting period (Infurna et al., 2015). The 2014-15 Head Start dimension scores, the most recent available were no different. Consistent with previous years, the RECAP CLASS overall mean was significantly higher than the Head Start CLASS overall mean. Of note, RECAP Concept Development, Quality of Feedback, and Language Modeling dimension scores are all >.8 of a point higher than National Head Start scores. As has been documented in past RECAP Annual Reports, the RECAP Overall CLASS score is consistently superior to that of National Head Start. Figure 10 depicts dimension scores of both National Head Start and RECAP classrooms.

Figure 10. Head Start and UPK CLASS means by dimension



CLASS Correlations with ECERS-3

Previous RECAP annual reports have reported on the relationships between the CLASS and the ECERS-R (Story, et al 2012; Taylor, et al 2011; Taylor, et al. 2010). The results of these anlyses provided evidence which suggested that the CLASS and the ECERS-3 assess different aspects of classroom quality. Based on these results, it was hypothesized that there would be relatively few significant correlations between the classroom domains as measured by the two instruments and that if significant correlations were found, they would account for relative small amounts of overlapping variance.

Correlations between the CLASS and the ECERS-3 were analyzed again this year.

In summary, these observational assessment tools do not substantially overlap. Only the Emotional Support domain of the CLASS and Routine domain of the ECERS-3 are significantly correlated. The correlational matrices between the ECERS-3 and CLASS domains are provided in the 2015-16 Statistical Supplement report.

Table 7 depicts the correlation between the CLASS domains and the ECERS-3dimensions.

Table 7. 2015-16 RECAP CLASS correlation with ECERS-3

Variable	1	2	3	4	5	6	7	8	9	10	11
	Full Sample (n=146)										
1. Emotional Support	-	.75*	.55*	.80*	.09	.16*	.00	.07	.10	.05	.10
2. Classroom Organization		-	.64*	.88*	.15	.11	.00	.09	.09	.09	.10
3. Instructional Support			-	.90*	.05	.11	.01	.07	.05	.05	.07
4. CLASS Overall				-	.10	.14	.00	.09	.08	.07	.10
5. Space					-	.50*	.57*	.64*	.60*	.54*	.77*
6. Routine						-	.56*	.55*	.58*	.51*	.77*
7. Language							-	.72*	.60*	.57*	.82*
8. Activity								-	.55*	.58*	.82*
9. Interaction									-	.78*	.85*
10. Program										-	.83*
11. ECERS-3 Overall											-

Note: *p < .05

Table 7 depicts analyses conducted on the CLASS domains and the ECERS-3 domains. The Emotional Support domain of the CLASS moderately significantly correlates with the Routine domain of the ECERS-3. This could be for a couple of reasons. One, the Emotional Support domain of the CLASS examines the care and warmth a teacher provides within their classroom. The Routine domain of the ECERS-3 measures how well the children are able to move from one activity to another without much direction from the teacher. A classroom high in Emotional Support would support the case that the adults in that room have a stronger bond and relationship with their students, therefore a classroom that exhibits stronger relationships would be better able to function as a whole when transitioning from activity to activity in the classroom. Second, developing those relationships takes time. Developing a solid classroom routine takes time as well. For some students in EPK and UPK programming, it is their first time being a part of a structured classroom environment. Developing efficient classroom routines can only be assisted by having a classroom teaching team that expresses warmth and care for their students, especially towards students transitioning to structured programming for the first time in their lives.

RECAP CLASS and ECERS scores have remained fairly consistent over the course of the past five years. Overall RECAP CLASS scores have remained significantly higher than that of National Head Start overall CLASS scores. Due to the lack of empirical studies reporting other community and state CLASS scores, a comparable comparison remains to be with National Head Start.

The 2015-16 RECAP year marked the implementation of the ECERS-3. Similar to CLASS, very little if any empirical literature exists on comparison programs implementing the ECERS-3. Overall, this academic year proved to be a benchmark year of implementation. The Rochester community continues to be at the forefront of continuous improvement models for other programs and school districts across the country.

Student Performance - Academics

Child Observation Record (COR)

In 1992, the HighScope Educational Research Foundation (HighScope), a nonprofit organization dedicated to the development and evaluation of materials that teach and assess young children, released the Child Observation Record (COR). The COR has been used by Head Start programs nationally and is approved by the New York State Department of Education for use in pre-k settings. RECAP began using the COR nearly two decades ago, based on the recommendations of teachers and administrators from RCSD Head Start and other community-based organizations (CBO). In 2014, HighScope released a new version of the COR called the Child Observation Record: Advantage (COR Advantage). Due to the timing of its release, the COR Advantage was not incorporated into the RECAP system for 2013-2014; however, it was integrated into RECAP's evaluation process in the 2014-2015 school year.

The COR Advantage is a developmentally appropriate observational measure that authentically assesses children's approaches to learning, social and emotional development, physical development and health, language and literacy, mathematics, creative arts, science and technology, social studies and English Language Learners (ELL). A list of specific items assessed by domain is provided below. Teachers observe children for at least six weeks and record observations of their students' functioning using 34 items. Each item is scored on a 7-point sequenced scale, with each point representing a level of children's growth along a developmental continuum.

Consistent with last year, teachers completed the COR Advantage in the fall, winter and spring. By administering the COR Advantage in the fall, teachers were able to quickly identify and address problem areas that their students displayed. The second administration of the COR Advantage in the winter gave administrators, teachers, and parents insights into student growth and development. It provided administrators an opportunity to provide additional professional development for teachers of struggling students. The third administration in late spring allowed teachers to assess the extent of individual student growth, provided insights regarding students' preparedness for kindergarten, and facilitated the sharing of this information with parents. The three administration periods also provided RECAP with the ability to examine growth rates for the entire pre-k sample.

Teachers completed the COR Advantage for their students using the online COR Advantage website (coradvantage.com), which processes and tabulates the data, instantly producing child summary reports. These reports show the raw and percentile scores for individual children in the nine skill areas. Since longitudinal data is not retained on the COR Advantage website, it was transferred to the COMET system for archival purposes.

The COR Advantage individual items within their respective skill areas are:

- Approaches to Learning:
  - A) Initiative and Planning
  - B) Problem Solving with Materials
  - C) Reflection

- Social and Emotional Development:
  - D) Emotions
  - E) Building Relationships with Adults
  - F) Building Relationships with other Children
  - G) Community
  - H) Conflict Resolution

- Physical Development and Health:
  - I) Gross-motor Skills
  - J) Fine-motor Skills
  - K) Personal Care and Healthy Behavior

- Language, Literacy, and Communication:
  - L) Speaking
  - M) Listening and Comprehension
  - N) Phonological Awareness
  - O) Alphabetic Knowledge
  - P) Reading
  - Q) Book Enjoyment and Knowledge
  - R) Writing

- Mathematics:
  - S) Number and Counting
  - T) Geometry: Shapes and Spatial Awareness
  - U) Measurement
  - V) Patterns
  - W) Data Analysis

- Creative Arts:
  - X) Art
  - Y) Music
  - Z) Movement
  - AA) Pretend Play

- Science and Technology:
  - BB) Observing and Classifying
  - CC) Experimenting, Predicting, and Drawing Conclusions
  - DD) Natural and Physical World
  - EE) Tools and Technology

- Social Studies:
  - FF) Knowledge of Self and Others
  - GG) Geography
  - HH) History

- English Language Learning (ELL):
  - II) Listening to and Understanding English
  - JJ) Speaking English

The following text and tables depict the growth of the entire RECAP cohort on the COR Advantage for the 2015-16 school year.

The COR Advantage domain scores represent the average of the item scores for that domain. Individual item scores represent the highest student performance observed during a specified time period. Domain scores are calculated only when 75% of all possible items in a category have a score for the time period. For children transitioning to kindergarten in 2015-2016, school readiness, as defined by HighScope, is indicated by an average score of at least 3.75 in each domain and an overall average of $\geq$4.0.

Table 8 depicts children entering UPK in the fall, at winter or mid-year, and at spring. ***Physical Development & Health*** and ***Creative Arts*** showed the highest scores and ***Mathematics*** and ***Language, Literacy, and Communication*** had the weakest scores during the fall. Of the 1686 children assessed overall, 12 (< 1%) were considered kindergarten ready at the beginning of school

Table 8. 2015-16 UPK COR Advantage student performance throughout school year

	Fall 2015			Winter 2016			Spring 2016			Fall-Spring Change				
COR Advantage Category	N	Mean	SD	N	Mean	SD	N	Mean	SD	**N**	**Change**	**SD**	**t Value**	**Effect Size (d)**
Approaches to Learning	1765	2.9	0.63	1828	3.7	0.74	1935	4.4	0.79	1702	1.5	0.76	*83.0*	2.0
Social Emotional Development	1780	2.8	0.71	1822	3.7	0.79	1942	4.4	0.85	1716	1.6	0.77	*84.8*	2.1
Physical Development & Health	1810	3.3	0.70	1841	4.2	0.73	1947	5.1	0.88	1758	1.8	0.88	*83.4*	2.0
Language, Literacy, Communication	1738	2.7	0.60	1808	3.5	0.67	1933	4.2	0.77	1704	1.5	0.67	*92.4*	2.2
Mathematics	1629	2.7	0.61	1721	3.6	0.77	1831	4.4	0.83	1552	1.8	0.74	*93.0*	2.4
Creative Arts	1713	3.0	0.75	1734	3.9	0.72	1866	4.6	0.76	1634	1.7	0.81	*83.2*	2.1
Science & Technology	1623	2.8	0.61	1727	3.6	0.75	1836	4.4	0.87	1554	1.7	0.82	*82.3*	2.1
Social Studies	1676	2.7	0.63	1775	3.6	0.77	1881	4.4	0.90	1598	1.7	0.84	*80.7*	2.0
Overall score	1686	2.9	0.55	1764	3.7	0.63	1894	4.5	0.73	1637	1.7	0.61	*109.7*	2.8
Kindergarten Readiness*	Freq.	%		Freq.	%		Freq.	%						
Ready for Kindergarten	12	0.1		301	17.1		1004	53.6						
Not Ready for Kindergarten	1674	99.9		1463	82.9		821	46.4						

*Children are deemed ready for kindergarten if each COR+ category score is >= 3.75 and the overall score is >= 4.0
Significant p<.05

At winter ***Mathematics*** and ***Creative Arts*** both had significant increases from the beginning of the year, with children making gains of almost a full point. ***Social Studies*** and ***Science & Technology*** also made significant increases. The overall mean score increased from 2.9 to 3.7. Most importantly, 301 students out of 1764 (17%) made sufficient gains to qualify them as being kindergarten ready at mid-year.

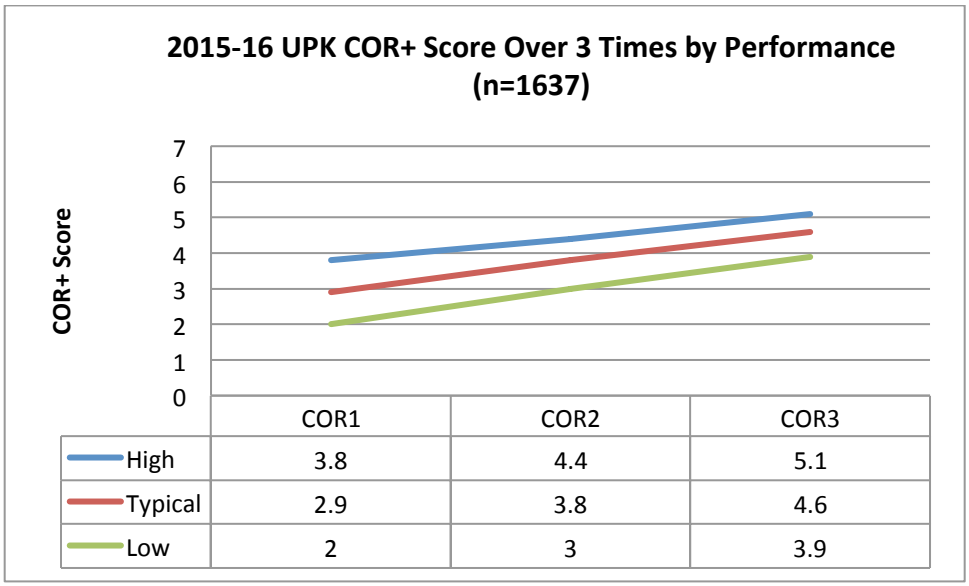
During the spring assessment ***Science & Technology*** and ***Social Studies*** made significant gains from the winter 2016 assessment period. Of note, the ***Overall Score*** grew by another .8 of a point from the winter 2016 assessment period.

Table 8 Depicts change scores on COR Advantage between the beginning (fall) to the end (spring) of the school year. Over the course of the 2015-16 school year, very large gains were made in all areas. The areas showing the greatest growth, largest effect sizes, were ***Mathematics***, ***Language, Literacy, and Communication and Overall performance***.

Table 8 illustrates school readiness, as defined by HighScope, and the number and percent of UPK students in the 2015-16 school year who were kindergarten ready on the COR in the fall, winter, and then in the spring. At the conclusion of the 2015-16 school year, 1004 (54%) of RCSD UPK students were ready to transition to kindergarten. However, this also means almost half (46%) were not ready. These proportions are the same as those reported for the 2014-2015 school year.

Figure 11 illustrates levels of pre-k growth for all students over the course of the 2015-16 year by COR Advantage overall mean entry achievement status. Students were categorized as high achieving at fall 2015 if their COR Advantage overall mean was in the 85th percentile. Moderately achieving students at fall 2015 had a COR Advantage overall mean between the 84th and 16th percentiles. Low achieving students at fall 2015 had a COR Advantage overall mean at or below the 15th percentile.

Figure 11. 2015-16 UPK COR Advantage scores over 3 times by performance



	COR1	COR2	COR3
High	3.8	4.4	5.1
Typical	2.9	3.8	4.6
Low	2	3	3.9

Although high achieving students at COR Advantage Time 1 (fall) maintain the highest overall COR Advantage mean, they do not make as large gains over the course of the school year as low achieving students. The low achieving group at Time 1 (fall) makes the largest gains overall (1.9), but still fails to meet the school readiness overall mean of 4.0. The high achieving group at Time 1 makes the fewest gains (1.3), while the typical achieving group at entry makes slightly higher gains (1.7).

These results parallel and are almost identical to the last few years' results. UPK children make very substantial gains during their pre-k school year, but many are not ready for kindergarten. This year's results confirms again that children are starting UPK with huge gaps and needs, demonstrate significant gains across all developmental domains, but cannot gain enough to be "ready for kindergarten". In essence, the 10 month UPK programs alone do not provide enough time and stimulation needed for children to be kindergarten ready.

This in turn, means that 50% of our impoverished students will have the foundational abilities needed to understand the more advanced educational instruction provide in kindergarten and the other 50% start kindergarten are already behind. For many of these children, any curriculum and instruction not realistically and developmentally aligned with and targeted for children's needs and "present" levels of understanding will result in frustration and learning failure. High expectations are important, realistic expectations are equally important. We discuss this trend and some potential strategies for slowing or even halting it later in this report.

COR Advantage and Enhanced Pre-Kindergarten (EPK)

The 2015-16 academic year marked the first year that a large proportion of Rochester's three year olds were observed with the COR Advantage. Because EPK started in January 2016 only two assessment periods were possible. Nearly 500 EPK students were assessed during the winter and spring assessment periods. Winter and spring COR Advantage scores are presented in Table 9. Of note, ***Physical Development and Health*** was the only domain to receive a beginning average (mean) domain score of >2.75. This is important because while High Scope does not publish any criteria for being "UPK Ready", by extrapolation of Head Start and High Scope data we operationally defined a score of 2.75 on every domain with an average of ≥3.0 across all domains as being "UPK Ready" .

Great gains were made by EPK students by spring 2016. Over a three to four month period, all but two domains had a mean score >3.0. ***Creative Arts*** made the greatest, with a .7 increase. ***Overall COR Advantage performance*** increased by .6 of a point from the winter 2016 assessment period.

Table 9. 2015-16 RECAP annual report winter and spring EPK COR Advantage scores

RCSD EPK Students	Winter 2016			Spring 2016		
COR Advantage Category	N	Mean	SD	N	Mean	SD
Approaches to Learning	488	2.7	0.69	487	3.2	0.82
Social Emotional Development	487	2.6	0.78	485	3.2	0.87
Physical Development & Health	488	3.1	0.64	487	3.7	0.72
Language, Literacy, Communication	488	2.4	0.64	483	2.9	0.68
Mathematics	476	2.3	0.64	474	2.9	0.72
Creative Arts	483	2.6	0.78	478	3.3	0.84
Science & Technology	480	2.4	0.7	473	3.0	0.78
Social Studies	486	2.4	0.75	483	3.0	0.80
Overall Score	488	2.6	0.59	487	3.2	0.67

Table 10 shows the COR Advantage change scores for EPK students from winter to spring. In total, 450 EPK students had sufficient pre/post data to compute a total score. The effect sizes reported in Table 10 indicate that large, defined as d≥ .80, gains were made between January-March and May-June, 2016.

Table 10. 2015-16 EPK COR Advantage change scores from winter to end of year

RCSD EPK Students	Change Scores			
COR Advantage Category	N	Mean	SD	Effect Size (d)
Approaches to Learning	476	0.6	0.69	0.89
Social Emotional Development	475	0.6	0.78	0.91
Physical Development & Health	476	0.6	0.65	0.93
Language, Literacy, Communication	471	0.5	0.63	0.94
Mathematics	453	0.6	0.64	1.10
Creative Arts	462	0.7	0.77	1.03
Science & Technology	454	0.6	0.69	0.96
Social Studies	469	0.6	0.73	0.83
Overall Score	450	0.6	0.71	0.85

UPK Student Performance and Attendance

RECAP has tracked UPK student attendance for almost two decades. We provide detailed analyses of attendance data from both RCSD and community-based organizations (CBOs). For purposes of these analyses, all students having qualifying pre and post COR Advantage and T-CRS data were included in the analyses. Three groups were formed on the basis of average daily attendance. The low attendance group, severely chronically absent, had ≤ 80% attendance; the chronic attendance group, chronically absent, had 81%-89% attendance; and the high attendance group had ≥90% attendance. These attendance groups replicate the attendance groups used in grades K-12 at the RCSD, NY State and in the research literature.

Two hypotheses pertaining to the impact of attendance on student performance are discussed below. The first, which is based on the effects of attendance on academic performance reported for elementary and secondary students, suggests that pre-k students with better attendance will perform better and gain more on the COR Advantage by the end of the year due to the additional instruction time they received. The second, based on the RECAP results presented in the last two years' reports, predicts that attendance has an impact on students overall performance.

Table 11. Comparison of three attendance groups on fall assessment with the COR Advantage

2015-16 RECAP Annual Report COR+ Attendance Scores at Pre										
COR+ Pre	Low Group (<=80%)			Moderate Group (81%-89%)			High Group (>=90%)			F Value
	N	Mean	SD	N	Mean	SD	N	Mean	SD	
Approaches to Learning	497	2.9[b]	0.7	449	2.9[b]	0.6	778	3[a]	0.6	5.9*
Social Emotional Development	499	2.7[b]	0.7	452	2.8[b]	0.7	787	2.9[a]	0.7	16.7*
Physical Development and Health	510	3.3[a]	0.7	464	3.3[a]	0.7	798	3.4[a]	0.7	2.5
Lang., Lit., and Communication	484	2.6[c]	0.6	444	2.7[b]	0.5	770	2.8[a]	0.6	22.7*
Mathematics	449	2.6[b]	0.6	412	2.6[b]	0.6	727	2.7[a]	0.6	11.8*
Creative Arts	478	3[b]	0.8	437	3[b]	0.7	762	3.1[a]	0.7	5.2*
Social Studies	448	2.7[b]	0.6	404	2.7[b]	0.6	731	2.8[a]	0.6	6.2*
Science and Technology	465	2.7[b]	0.6	428	2.7[b]	0.6	738	2.8[a]	0.6	7.2*
COR+ Overall Pre	464	2.8[b]	0.5	428	2.8[b]	0.5	752	3[a]	0.6	13.2*

Note: Means with the same letter are not significantly different ([a, b, c]) *significant at p <.05

Table 11 depicts COR+ scores at entry for the three attendance groups. It is important to note that only the ***Physical Development and Health*** domain mean of the three attendance groups was not significantly different. The ***Physical Development and Health*** domain measures fine and gross motor skills of children, as well as personal care and healthy behaviors. In all the other COR+ domains, the moderate and high attending group had statistically significant higher means than the low attending group. Table 12 reports on COR+ scores at post.

Table 12. Comparison of three attendance groups on spring assessment with the COR Advantage

2015-16 RECAP Annual Report COR+ Attendance Scores at Post										
COR+ Post	Low Group (<=80%)			Moderate Group (81%-89%)			High Group (>=90%)			F Value
	N	Mean	SD	N	Mean	SD	N	Mean	SD	
Approaches to Learning	521	4.2[c]	0.8	464	4.4[b]	0.7	808	4.5[a]	0.7	26.3*
Social Emotional Development	522	4.2[b]	0.9	466	4.4[a]	0.8	814	4.5[a]	0.8	27.9*
Physical Development and Health	523	4.9[b]	1	468	5.1[a]	0.8	813	5.2[a]	0.8	15.2*
Lang., Lit., and Communication	516	3.9[c]	0.8	468	4.2[b]	0.7	810	4.3[a]	0.7	49.3*
Mathematics	475	4.1[c]	0.9	449	4.4[b]	0.8	781	4.5[a]	0.8	40.6*
Creative Arts	492	4.5[b]	0.8	454	4.7[a]	0.7	794	4.7[a]	0.7	13.7*
Social Studies	488	4.2[b]	0.9	442	4.5[a]	0.8	768	4.5[a]	0.8	24.5*
Science and Technology	501	4.1[b]	0.9	449	4.4[a]	0.8	794	4.5[a]	0.8	21.3*
COR+ Overall Post	500	4.3[c]	0.8	457	4.5[b]	0.6	800	4.6[a]	0.7	33.9*

Note: Means with the same letter are not significantly different ([a, b, c]) *significant at p <.05

Table 12 depicts COR+ mean scores at spring data collection. All of the COR+ mean scores are statistically significant between the three attendance groups. However, the ***Approaches to Learning***, ***Language, Literacy, and Communication***, ***Mathematics***, and ***COR+ Overall*** means follow the same pattern of significance in which the higher attending group has a higher mean than the moderately attending group, and the moderately attending group has a higher mean than the low attending group. Table 13 reports on growth over the school year between the three attending groups.

Table 13. Comparison of three attendance groups on change/growth from the beginning to the end of the school year on the COR Advantage

2015-16 RECAP Annual Report COR+ Attendance Scores Change Between Pre/Post										
COR+ Change	Low Group (<=80%)			Moderate Group (81%-89%)			High Group (>=90%)			F Value
	N	Mean	SD	N	Mean	SD	N	Mean	SD	
Approaches to Learning	385	1.4[b]	0.8	433	1.6[a]	0.7	762	1.6[a]	0.7	7.6*
Social Emotional Development	381	1.5[b]	0.8	436	1.7[a]	0.8	776	1.6[a]	0.8	4.1*
Physical Development and Health	391	1.7[b]	1	453	1.8[a]	0.9	789	1.8[a]	0.9	3.1*
Lang., Lit., and Communication	380	1.4[b]	0.7	438	1.5[a]	0.6	767	1.5[a]	0.6	7.1*
Mathematics	338	1.6[b]	0.8	400	1.8[a]	0.7	706	1.8[a]	0.7	6.9*
Creative Arts	361	1.6[b]	0.9	423	1.7[a]	0.8	742	1.6[a,b]	0.8	2.8
Social Studies	346	1.6[b]	0.9	392	1.8[a]	0.8	704	1.7[a]	0.8	7.0*
Science and Technology	353	1.5[b]	0.9	407	1.7[a]	0.8	721	1.7[a]	0.8	7.4*
COR+ Overall Change	360	1.5[b]	0.7	419	1.7[a]	0.6	742	1.7[a]	0.6	7.7*

Note: Means with the same letter are not significantly different ([a, b, c]) *significant at p <.05

Table 13 depicts COR+ change scores over the course of the school year between the three attendance groups. Similar to fall scores, all but the ***Creative Arts*** domain of the COR+ had statistically significant mean scores. Figure 11 reports on COR+ change scores by three attendance groups.

Figure 11. COR Advantage change scores by three attendance groups

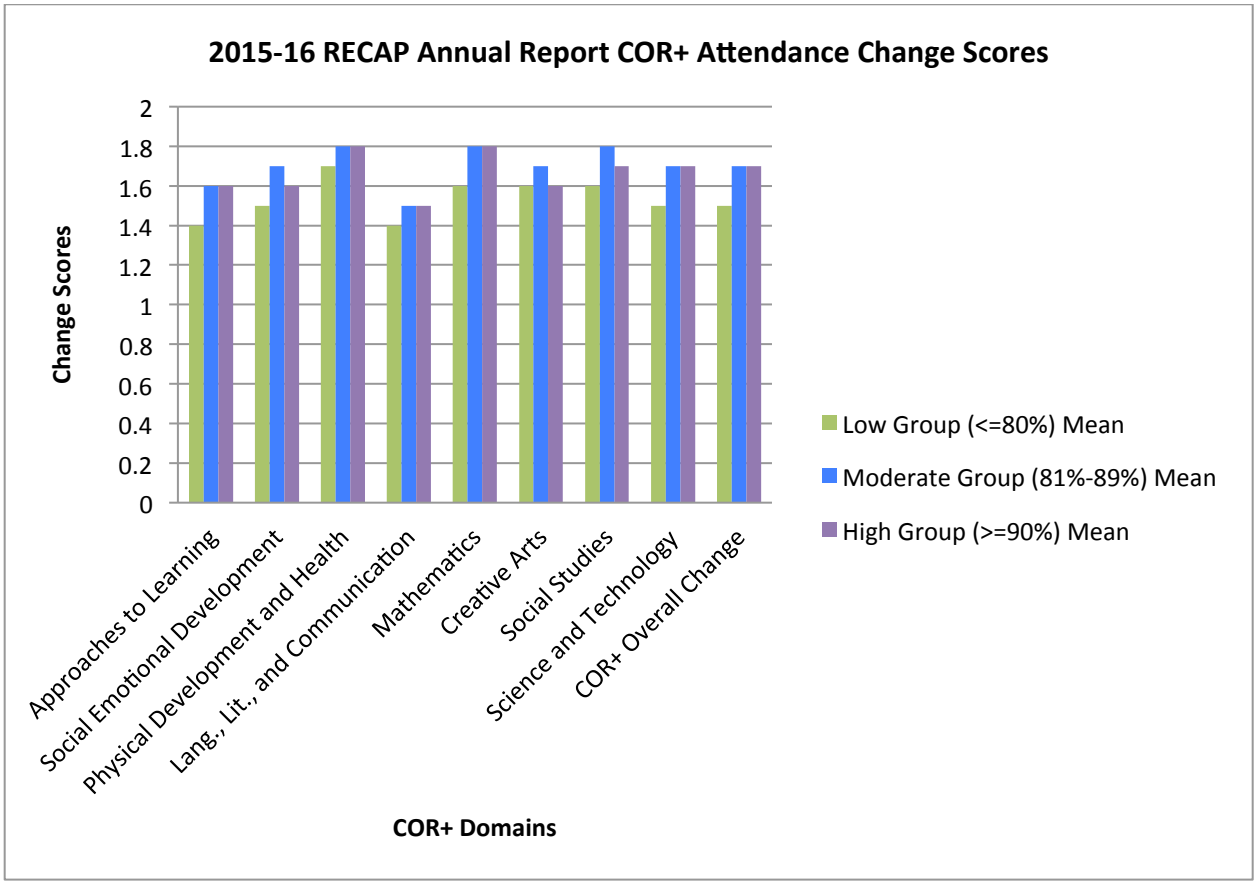


Figure 11 reports on COR+ change scores over the course of the 2015-16 academic year. The high and moderately attending groups made similar gains throughout the course of the school year. The moderately attending group made greater gains than the high attending group in the ***Social Emotional Development***, ***Creative Arts***, and ***Social Studies*** domains. The low attending group did not make as large gains compared to the high and moderately attending groups. Table 14 depicts correlations between COR+ and attendance group.

Table 14. Correlation between COR Advantage subscales and total days attended

COR Advantage Domains	Total[1] Days-Pre	Total[2] Days-Post	Total[3] Days-Change
Approaches to Learning	0.07*	0.17*	0.09*
Social Emotional Dev.	0.13*	0.16*	0.02
Physical Dev. and Health	0.05*	0.12*	0.05*
Lang., Lit., and Communication	0.16*	0.23*	0.08*
Mathematics	0.12*	0.21*	0.08*
Creative Arts	0.07*	0.12*	0.01
Social Studies	0.07*	0.15*	0.07*
Science and Technology	0.09*	0.16*	0.08*
Overall Score	0.12*	0.19*	0.07*

Note: *significant at $p < .05$

Table 14 reports on the correlation between the COR+ domains and total days attending for students. Only the ***Social Emotional Development*** domain of the COR+ was not statistically significant at total days-change score. Table 15 reports on kindergarten readiness by attendance group.

Table 15. Kindergarten readiness by attendance group

UPK Kindergarten Readiness by COR+ and Attendance								
	Low attending (<=80%)		Moderately attending (81%-89%)		High attending (>=90%)		Total	Percent
	Frequency	Percent	Frequency	Percent	Frequency	Percent		
Kindergarten Ready	210	42	235	51	481	60	926	53
Not Kindergarten Ready	290	58	222	49	319	40	831	47
Totals	500	100	457	100	800	100	1757	100

Table 15 depicts kindergarten readiness by attendance group. Some students from all three attendance groups met the HighScope (2015) definition of school readiness. However, a majority of students from the moderately attending and high attending groups were school ready as compared to their peers in the same group. Table 16 represents school readiness by gender.

Table 16. Kindergarten readiness by gender and attendance group

UPK School Readiness by Gender and Attendance										
	Low Attending (<=80%)			Moderately Attending (81%-89%)			High Attending (>=90%)			Totals
	Frequency	Percent	Chi.Sq.	Frequency	Percent	Chi.Sq.	Frequency	Percent	Chi.Sq.	
Female	122	58	5.04*	141	56	4.61*	260	54	5.6*	523
Male	88	42		94	44		221	46		403
Totals	210	100		235	100		481	100		926

Note *significant at p <.05

Across the three different attendance groups, female students are more ready to transition to kindergarten as compared to their male peers. Table 17 represents school readiness by attendance and race/ethnicity.

Table 17. School readiness by gender, attendance and race/ethnicity

UPK Kindergarten Readiness by Attendance, Gender, and Race/Ethnicity													
	Low Attending Male		Low Attending Female		Moderately Attending Male		Moderately Attending Female		High Attending Male		High Attending Female		
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Total
Black	53	43	69	57	66	42	92	58	142	47	158	53	903
White	7	37	12	63	14	51	13	49	50	47	56	53	*
Latino	23	43	30	57	11	26	31	74	17	33	34	67	*
Asian	1	20	4	80	2	50	2	50	10	63	6	37	*
Total	84	*	115	*	93	*	138	*	219	*	254	*	903

Table 17 depicts school readiness by attendance and race/ethnicity. In total, female students are more school ready than their male peers in all but moderately attending White male students and high attending Asian male students. Table 18 depicts overall attendance by gender.

Table 18. Attendance by gender

UPK Attendance by Gender								
	Group 1 (<=80%)		Group 2 (81%-89%)		Group 3 (>=90%)		Total	*t*-test
	Frequency	Percent	Frequency	Percent	Frequency	Percent		
Female	433	51	267	53	422	50	1122	
Male	410	49	234	47	421	50	1065	
Totals	843	100	501	100	843	100	2187	.54

Note: no significant difference between gender and attendance

Table 18 reports on UPK student attendance by gender. The sample depicted in this table is representative of all UPK students that attended at least one day UPK during the 2015-16 academic year. No significant difference in school attendance exists between female and male students.

Brigance® Early Childhood Screen III (Brigance III)

Due, in part, to New York state requirements, RECAP added the Brigance® Early Childhood Screen II to its assessment battery in 2012-2013. RECAP uses this direct assessment to screen students for critical predictors of school success and provide important information regarding students' development. In the summer of 2013, the developers of the Brigance disseminated a new edition of the Brigance called the Brigance® Early Childhood Screen III. This version contains new content and more closely aligns with the Common Core standards. It is used to identify children whose development may be delayed and who may need further evaluation. It also screens for students who may be gifted or talented and might benefit from an enhanced curriculum. In the 2013-2014 school year, RECAP incorporated the Brigance III, replacing the prior version of the assessment.

Areas assessed by the Brigance III include ***Language Development, Academic & Cognitive Skills,*** and ***Physical Development & Health.*** An overall score for the Brigance III is calculated out of a possible 100 points and is used in conjunction with a calculated "At Risk" score, which is derived from a subset of Brigance III items to assign a status level to each student:

- Level 1 – students who are at high risk and may be in need of further evaluation for developmental delays
- Level 2 – students who should be monitored closely
- Level 3 – students who are functioning in a normal developmental range
- Level 4 – students who are possibly talented and may need enhanced work and additional stimulation

In the fall 2015, teachers administered the Brigance III to all of their students. Results showed that 64% of students were functioning either within the normal range or as possibly talented (levels 3 and 4). The Brigance III identified 37% of the incoming pre-k students as being at-risk and possibly in need of a more formal evaluation or close monitoring (levels 1 and 2). Table 22 shows the breakdown of the UPK students' overall developmental status based on the Brigance III screen.

Table 22. UPK Brigance III Screening 2015-16

2015-16 RECAP Annual Report: RCSD UPK Brigance Scores				
Screen Status	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Need for further evaluation	553	32%	553	32%
Monitor closely	79	5%	632	37%
Within normal range	950	56%	1582	93%
Possibly talented	125	7%	1707	100%
Frequency Missing = 99				

Similar to the 2014-15 school year, about a third of entering pre-k students were already showing signs of delayed developmental readiness. This is a substantial portion of the pre-k population. It further supports the COR's assessment that many children are entering pre-k significantly behind where they should be developmentally.

Table 23 represents EPK Brigance III screening results for the 2015-16 school year. Of note, a greater percentage of entering EPK students (79%) are within normal ranges and or possibly talented, as compared to the UPK cohort (63%). Twenty-one percent needed further review.

Parent initiative may have played a role in the stark discrepancy between EPK and UPK due to the registration requirements needed for the EPK program. Parents/guardians, in order to secure a seat in an elementary school or CBO, were required to complete an application prior to enrollment. Unlike the UPK group, where everyone is accepted, EPK students were not guaranteed placement, requiring some initiative on the part of the parent/guardian for enrollment to have occurred. It is possible that this parental initiative was reflected in children's home environments, resulting in relatively advanced development, as demonstrated by EPK student achievement as of January, 2016.

However, EPK also has enrolment criteria which includes income, only children from low-income homes could participate this year. Such criteria, where impoverished children are those selected, would typically lead to predictions of poorer performance, which did not occur. Another possibility is that there is a critical period between when impoverished children move from three to four years of age and working with three year old children may help them maximize their growth and not as likely to be delayed as four year olds. Otherwise put, there is less need for developmental remediation. Because 2016 was a baseline year, further analyses over the next few years is needed to sort out what is actually happening at EPK.

Table 23. EPK Brigance III Screening 2015-16

2015-16 RECAP Annual Report: RCSD EPK Brigance Screen Status		
	Winter (n=476)	
Screen Status	Frequency	Percent
Need for Evaluation	88	18%
Monitor Closely	12	3%
Normal Range	323	68%
Possibly Talented	53	11%
Frequency Missing = 52	476	100%

Correlations between the Brigance III and the Pre and Post COR Advantage for UPK students

Correlations for responses between the COR Advantage Overall scores and Brigance III subscales are displayed in Table 24. All the relationships between the ***Brigance III Total Score, At-Risk***, ***Language Development***, ***Academic/Cognitive, and Physical Development*** subscales and the ***COR Overall Pre, Post, and Change scores*** were positive and most were statistically significant.

Table 24. Correlations between the COR Advantage total and the Brigance for UPK students for the 2015-16 school year

	COR Advantage Pre[1]	COR Advantage Post[2]	COR Overall Change[3]
Brigance Total	0.53*	0.48*	0.07
Language	0.31*	0.41*	0.03
Cognitive	0.38*	0.38*	0.07
Health and Physical	0.23*	0.25*	0.08

[1] n=1451; [2] n=1445; [3] n=1321
*Results are significant at the p<.0001

Table 24 depicts the correlation matrix between UPK COR Advantage pre, post, and overall change scores and the Brigance Total score, Cognitive, Health and Physical domains. Overall, the Brigance Total score and three Brigance domains and the UPK COR Advantage pre and post scores positively and significantly correlate with one another. COR Advantage overall change scores are not significantly correlated with the Brigance III.

Table 25. Correlations between the COR Advantage and the Brigance for EPK students for the 2015-16 school year

	COR+ Overall Pre[1]	COR+ Overall Post[2]	COR+ Overall Change[3]
Brigance Total	0.54*	0.56*	0.08
Language	0.46*	0.50*	0.07*
Cognitive	0.42*	0.46*	0.05
Physical	0.34*	0.32*	0.05

1n=463; 2n=443; 3n=392
*Results are significant at the p<.0001

Table 25 depicts correlations between the COR+ and Brigance scores for EPK students. Overall, the COR+ Overall pre and post scores correlate with the Brigance Total, Language, Cognitive, and Physical domains of the Brigance. However, with change scores of students with both pre and post COR+ scores, only the Language domain of the Brigance correlated.

Student Performance – Social/Emotional

Teacher-Child Rating Scale (T-CRS)

The Teacher-Child Rating Scale (T-CRS) is an integral part of the RECAP assessment system. The T-CRS consists of 32 items that assess both positive and negative aspects of a child's social-emotional performance. The items on the T-CRS combine to create four empirically derived subscales: ***Task Orientation***, ***Behavior Control***, ***Assertiveness***, and ***Peer Social Skills.***

The T-CRS has a variety of uses: as a screening measure, as part of an individual assessment battery, and as a pre- and post-research or evaluation measure. Within RECAP, the T-CRS serves as a screen to identify students with needs and as a tool to track population trends, changes in students' social and emotional development, and the impact of pre-k programs in Rochester. Table 26 compares UPK student initial risk status (at or below the 15th percentile, approximately 1 standard deviation) as measured by the fall and spring administration of the T-CRS for the 2015-16 program year. Table 27 reviews UPK pre/post T-CRS scores. Table 28 presents UPK T-CRS change scores. Figure 12 illustrates growth over time by percentile of the ***Task Orientation*** domain of the T-CRS.

Social emotional well-being of EPK students was also assessed by the T-CRS. Table 29 reviews EPK pre/post T-CRS scores. Table 30 shows EPK T-CRS change scores. EPK student risk-status was assessed at program entry (January, 2016-March, 2016). Table 31 reviews EPK student risk-status.

Table 26. UPK social-emotional risk factors for fall & spring 2015-16 school year

Number of Risks	Risk Count	Cumulative Freq.
	Fall (n=1914)	
No Risk	1433	75%
1 Risk	237	12%
2 Risks	112	6%
3 Risks	109	6%
4 Risks	23	1%
	Spring (n=1707)	
No Risk	1297	76%
1 Risk	222	13%
2 Risks	121	7%
3 Risks	60	4%
4 Risks	7	<1%

Table 26 represents UPK student pre/post risk status during the 2015-16 school year. Risk is determined by a score(s) below the 15% percentile for any of the four T-CRS domains (Task Orientation, Behavior Control, Assertiveness, and Peer Social Skills). Three quarters of incoming UPK students entered pre-k with no risk factors. Spring UPK risk assessment followed a similar trend. In total, 76% of UPK students who were assessed in the spring are transitioning to kindergarten without an assessed risk.

Table 27 reports UPK T-CRS pre/post scores for the 2015-16 school year. Overall, students made significant gains in all four subdomains of the T-CRS over the course of the school year.

Table 27. 2015-16 RECAP UPK Pre & Post T-CRS scores

2015-16 RECAP UPK Pre / Post T-CRS Scores						
	Pre			Post		
Variable	N	Mean	SD	N	Mean	SD
Task Orientation	2014	27.6	6.5	1707	28.3	6.9
Behavior Control	2014	27.0	7.2	1707	27.2	7.4
Assertiveness	2014	28.7	5.7	1707	30.2	5.4
Peer Social	2014	29.8	6.0	1707	31.1	5.8

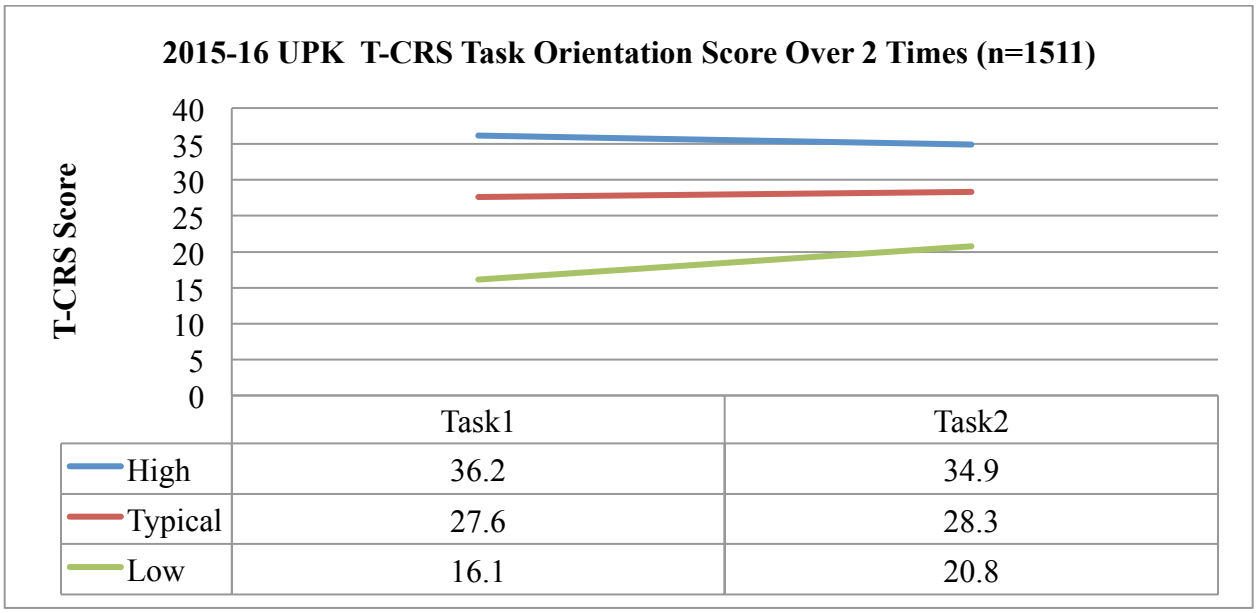
Table 28 provides UPK T-CRS change scores and effect size. Overall, UPK students made significant gains across all four of the T-CRS subdomains. The ***Behavior Control*** and ***Task Orientation*** subdomains of the T-CRS have very small effect sizes, at .13 and .06 respectively. The ***Assertiveness*** and ***Peer Social*** subdomains of the T-CRS show low, but significant, effect sizes of reported growth over the course of the 2015-16 school year at .29 and .27 respectfully.

Table 28. 2015-16 RECAP Annual Report UPK T-CRS change scores

2015-16 UPK T-CRS Change Scores					
Variable	N	Mean	SD	*t*	Effect Size(d)
Task Orientation	1510	0.8	5.8	5.67*	0.13
Behavior Control	1510	0.4	6.0	2.70*	0.06
Assertiveness	1510	1.5	5.1	11.89*	0.29
Peer Social	1510	1.4	5.1	10.36*	0.27

*$p < .05$

Figure 12. 2015-16 UPK task orientation growth at 2 times of observation



	Task1	Task2
High	36.2	34.9
Typical	27.6	28.3
Low	16.1	20.8

Figure 12 depicts the ***Task Orientation*** domain change score based on three types of achievement. At fall 2015 entry (TASK1), students in the top 85% of ***Task Orientation*** scores were placed in the high achieving group. Students in the low category were at the bottom 15% of achievement. Remaining students were placed in the typical category. It is important to note that students that entered within the high category at fall 2015 (TASK1) decreased in the ***Task Orientation*** domain. Students in the typical category made minimal gains over the course of the school year, while the low entering group made the most gains, but still fell well behind their typical and high entering peers. The ***Behavior Control***, ***Assertiveness***, and ***Peer Social Skills*** domains of growth over two times of observation are similar to the figure above. In all four cases, the high achieving group at fall 2015 entry loses skills over the course of the school year. The typical group makes minimal gains, while the low achieving group at fall 2015 entry makes large gains.

The following section reports on EPK student T-CRS pre/post scores, change scores, and risk factors at entry.

Overall, EPK student's showed growth from T-CRS pre to T-CRS post across all four T-CRS subdomains (Task Orientation, Behavior Control, Assertiveness, and Peer Social).(***Task Orientation***, ***Behavior Control***, ***Assertiveness***, and ***Peer Social***). Table 29 summarizes pre and post T-CRS performance on each scale and Table 30 represents EPK T-CRS change scores, effect size, and t test scores.

Table 29. 2015-16 RECAP Annual Report EPK T-CRS Pre & Post Scores

2015-16 EPK T-CRS Pre / Post Scores						
	Pre			Post		
Variable	N	Mean	SD	N	Mean	SD
Task Orientation	526	26.5	7.0	580	27.2	7.1
Behavior Control	526	25.1	7.7	580	25.8	7.7
Assertiveness	526	27.8	5.9	580	29.2	5.6
Peer Social	526	29.0	6.5	580	29.9	6.4

Table 30. 2015-16 RECAP Annual Report EPK T-CRS Change Scores

2015-16 EPK T-CRS Change Scores					
Domain	N	Mean	SD	d	*t*
Task Orientation	476	0.5	5.6	0.09	1.95
Behavior Control	476	0.2	5.9	0.03	.66
Assertiveness	476	1.3	5.0	0.26	5.85*
Peer Social	476	0.7	5.5	0.12	2.76*

$p < .05$

EPK students made minimal, but significant, gains on Peer Social Skills and small significant gains were made on the Assertiveness domain of the T-CRS.

The pattern of change for the EPK students was similar to UPK students, the largest gains were made on assertive skills followed by peer social skills and task orientation with behavior control showing no changes. This pattern of results suggests both EPK and UPK teachers may benefit from specific professional development on how to better work with those challenging children who are aggressive and acting out.

Table 31 depicts EPK student risk status at program entry on the T-CRS. Of note, only 36% (Risk variable of 86%-100%) of EPK students entered EPK within the normal range and approximately 7% of students entered EPK assessed as severely at-risk (Risk variable 0%-15%).

Table 31. 2015-16 RECAP Annual Report RCSD EPK T-CRS Pre Risk

2015-16 RECAP Annual Report: RCSD EPK T-CRS Time 1 Risk Scores				
Risk Variable	Frequency	Percent	Cumulative Frequency	Cumulative Percent
86%-100%	181	36.49	181	36.49
31%-85%	125	25.2	306	61.69
16%-30%	157	31.65	463	93.35
0%-15%	33	6.65	496	100

UPK Student Social-Emotional Health and Attendance

For the third consecutive year, we analyzed the effects of student attendance on students' social and emotional ratings from the T-CRS. Students were grouped in three categories: those with low attendance (<=80%) attendance, moderate (81%-89%) attendance, and high attendance (>=90%).

Table 32 represents T-CRS scores in the fall based on attendance. Table 33 reports T-CRS scores in the spring based on attendance. Table 34 depicts T-CRS growth based on attendance. Table 35 reports on T-CRS growth correlated with the Life Experiences domain of the Pre-K PACE.

Table 32. UPK T-CRS scores in the fall based on attendance

UPK T-CRS Scores in the Fall Based on Attendance-2015-16 RECAP Annual Report										
	Low (≤ 80%)			Moderate (81%-89%)			High (≥90%)			
T-CRS Pre	N	Mean	SD	N	Mean	SD	N	Mean	SD	F Value
Task Orientation	607	27	6.4	440	27.6	6.5	784	28.3	6.5	7.85*
Behavior Control	607	26.7	7	440	27.1	7.2	784	27.2	7.5	0.93
Assertiveness	607	28.1	5.9	440	28.8	5.4	784	29.3	5.6	7.07*
Peer Social Skills	607	29.6	5.8	440	29.7	6.2	784	30.3	6	2.55

Note*significant $p < .05$

Table 32 presents fall T-CRS scores for the three attendance groups. Students in the low attendance group entered pre-k with greater social-emotional concerns than the other two groups for *Task Orientation* and *Assertiveness*. These findings replicate those of the 2014-15 cohort of pre-k students.

Table 33. UPK T-CRS scores in the spring based on attendance

UPK T-CRS Scores in the Spring Based on Attendance-2015-16 RECAP Annual Report										
	Low (≤ 80%)			Moderate (81%-89%)			High (≥90%)			
T-CRS Post	N	Mean	SD	N	Mean	SD	N	Mean	SD	F Value
Task Orientation	496	27.4	6.8	405	28.5	6.8	727	29.1	6.9	9.06*
Behavior Control	496	27.1	7.1	405	27.3	7.3	727	27.4	7.7	0.27
Assertiveness	496	29	5.6	405	30.6	5	727	31	5.3	20.49*
Peer Social Skills	496	30.2	5.8	405	31.3	5.8	727	31.8	5.8	10.79*

Results of the spring comparisons of the attendance groups are shown in Table 33. The high attendance group has greater ***Task Orientation***, ***Assertiveness Skills***, and ***Peer Social Skills*** than the other two attendance groups. The moderately attending group demonstrated greater skills in the three domains mentioned previously than did the low attending group.

Table 34. UPK T-CRS change scores based on attendance

UPK T-CRS Change Scores Based on Attendance-2015-16 RECAP Annual Report										
	Low (≤ 80%)			Moderate (81%-89%)			High (≥90%)			
T-CRS Change	N	Mean	SD	N	Mean	SD	N	Mean	SD	F Value
Task Orientation	377	0.9	6.4	375	1.1	5.4	680	0.9	5.5	0.13
Behavior Control	377	0.8	6.3	375	0.3	6.1	680	0.4	5.9	0.82
Assertiveness	377	1.3	5.5	375	1.9	4.7	680	1.8	5	1.83
Peer Social Skills	377	1	5.3	375	1.6	5	680	1.6	5.1	1.87

Analyses of the T-CRS change scores are shown in Table 34. No statistically significant differences in change scores are present between the three attendance groups.

Table 35. T-CRS change scores correlated with Pre-K PACE life experiences

2015-16 RECAP T-CRS Change Scores Correlated with Pre-K PACE Life Experiences				
Pre-K PACE Life Experience Variables	Task Orientation Change	Behavior Control Change	Assertiveness Change	Peer Social Skills Change
Moved Within Previous Six Months	-0.06	-0.11*	0.00	-0.06
Moved During Lifetime	-0.03	-0.06	-0.05	-0.02
Dealt with Family/Friend Sickness	0.02	0.04	0.04	-0.01
Experienced Death of a Family Member or Friend	0.02	0.04	0.03	-0.03
Experienced Parents' Separation or Divorce	-0.03	0.01	-0.04	-0.05
Experience a Depressed Parent	0.00	0.00	0.00	0.01
Experienced an Incarcerated Parent	-0.05	-0.09	-0.05	-0.05
Witnessed Violence in Neighborhood	-0.08*	-0.09*	-0.03	-0.03
Witnessed Violence at Home	-0.03	-0.08*	0.04	0.04
Been in Foster Care	0.10*	0.08*	0.03	0.13
Seen a Family Member with Drugs/Alcohol	-0.03	-0.03	0.01	0.03

*significant p<.05

Table 35 depicts T-CRS change score correlations with the Life Experiences section of the Pre-K PACE. A student's behavior control ability is negatively affected by four different variables of the Pre-K Pace: moved within the previous six months; witness violence in the neighborhood; witness violence at home; and time in foster care. A student's task orientation/executive functioning skills are also negatively impacted by witnessing violence in the neighborhood and time spent in foster care.

Teacher Self-Efficacy

The concept of self-efficacy, as the core of social cognitive theory, refers to an individual's judgement of his/her capability to perform actions at a designated level of accomplishment and completion (Bandura, 1997). Individuals who believe that they will be successful on a given task are more likely to achieve desired results because they allocate a great deal of effort, are persistent in the face of setbacks, and develop coping mechanisms for managing negative events (Bandura, 1986, 1997). As presented in social cognitive theory, personal factors and the context interact to influence each other through the process of reciprocal determination (Bandura, 1986, 1997).

Teacher self-efficacy refers to teachers' beliefs that they can bring about desirable changes in pupils' behavior and achievement (Guo, Piasta, Justice, & Kaderavek, 2010). This definition reflects the context-specific feature of self-efficacy. Specifically, the self-efficacy of a teacher may be speculated to vary across different classrooms, as different classes often vary in size and the composition of students. Therefore, it is important to examine the relationship of teacher characteristics and classroom context to teachers' self-efficacy (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998).

The following tables present a broad review of early childhood educator teacher self-efficacy in the Rochester community. EPK and UPK teachers voluntarily completed a questionnaire that was distributed via email. Of the 173 EPK/UPK teachers employed in Rochester, 89 teachers completed the questionnaire (51% return rate). In total, 83 questionnaires were included in analyses due to missing data in six questionnaires.

Table 36. 2015-16 RECAP EPK/UPK teacher self-efficacy (n=83)

2015-16 RECAP EPK/UPK Teacher Self-Efficacy Means				
Domain	Mean	SD	Minimum	Maximum
Student Engagement	7.5	1.0	4.6	9.0
Instructional Support	7.5	1.0	4.8	9.0
Classroom Management	7.3	1.1	5.0	9.0
Overall Teacher Self-Efficacy	7.4	1.0	4.8	9.0

Compared to empirical studies conducted by Guo et al., (2010; 2011) and Cheung (2008), EPK/UPK teacher self-efficacy in the Rochester community is slightly higher. Combined overall teacher self-efficacy for EPK and UPK teachers is 7.4.

Table 37. Pearson correlation analysis between CLASS scores and teacher self efficacy

Variable	1	2	3	4	5	6	7	8
	Full Sample (n=78)							
1. Student Engagement	-	.86*	.77*	.94*	.18	.23*	.27*	.27*
2. Instructional Support		-	.77*	.94*	.16	.24*	.26*	.26*
3. Classroom Management			-	.91*	.18	.27*	.29*	.29*
4. Teacher Self-Efficacy				-	.18	.27*	.30*	.30*
5. Emotional Support					-	.76*	.60*	.84*
6. Classroom Organization						-	.66*	.89*
7. Instructional Support							-	.90*
8. Overall CLASS Score								-

Overall, teacher self-efficacy and the CLASS assessment are moderately correlated, however, the Emotional Support domain of the CLASS assessment did not significantly correlate with any variables of teacher self-efficacy, including overall teacher self-efficacy. As previously discussed in the CLASS section of the RECAP Annual Report, the Emotional Support domain of the CLASS measures the warm and caring interactions observed between the adults in the classroom and their students. The Emotional Support domain also measures a teacher's sensitivity towards their students. It is interesting to mention that based on the correlation analysis conducted, an early childhood educator can feel good about the tools they possess to positively affect the achievement of their students in the classroom without having an observed warm and nurturing disposition in their classroom. Table 38 depicts a Pearson Correlation analysis of teacher self-efficacy and ECERS-3 results.

Table 38. Pearson correlation analysis between ECERS-3 and teacher self-efficacy

Variable	1	2	3	4	5	6	7	8	9	10	11
	Full Sample (n=68)										
1. Student Engagement	-	.86*	.77*	.94*	-.01	.00	.18	.01	-.08	.08	.05
2. Instructional Support		-	.77*	.94*	-.04	-.05	.07	-.02	-.09	-.04	-.02
3. Classroom Management			-	.91*	-.08	-.02	.04	-.09	-.03	.02	-.02
4. Teacher Self-Efficacy				-	.-.05	-.02	.10	-.04	-.07	.02	.00
5. Space					-	.46*	.55*	.63*	.54*	.49*	.73*
6. Routine						-	.61*	.53*	.53*	.52*	.76*
7. Language							-	.74*	.64*	.69*	.87*
8. Activity								-	.55*	.57*	.82*
9. Interaction									-	.77*	.82*
10. Program										-	.83*
11. Total											-

Table 38 depicts a Pearson Correlation analysis between teacher self-efficacy and the ECERS-3. No statistically significant correlation exists between any variable of the teacher self-efficacy scale, including overall teacher self-efficacy and the seven dimension of the ECERS-3 observational assessment tool.

Teacher Self-Efficacy and Years of Teaching Experience

The following section reviews years of teaching experience as reported by EPK and UPK teachers in the Rochester City School District and CBO's. Six teaching experience variables were included in a teacher demographic questionnaire distributed to EPK and UPK teachers. Those variables are: career years of teaching experience, early childhood years of teaching experience (Birth-2nd grade), years of teaching experience within their current site, years of teaching experience in other sites (including other CBO's and/or school districts), years of teaching experience working with children living in poverty, and years of teaching experience outside of the Birth-2nd grade setting (teaching experience with children grades 3 and up). Table 39 reports years of teaching experience combined for EPK and UPK teachers. Table 40 reports inter-correlations between teacher self-efficacy and years of teaching experience. Table 41 reports on a *t*-test analysis of years of teaching experience between teachers employed by RCSD and teachers employed by CBO's.

Table 39. 2015-16 EPK/UPK years of teaching experience

2015-16 EPK/UPK Years of Teaching Experience					
Type of Experience	N	Mean	SD	Minimum	Maximum
Career	83	11.5	8.1	1	28
Early Childhood	83	10.1	7.5	0	28
Current Site	83	5.1	6.5	0	27
Other Site	81	6.8	6.3	0	27
Poverty	83	10.1	8	0	31
Other Than ECE	83	2.4	4.9	0	31

Overall, Rochester community early childhood educators have 11.5 years of total teaching experience. It is also important to note that teachers have 10.1 years of early childhood teaching experience (Birth-2nd grade), with minimal experience outside of the ECE setting (2.4 years).

Table 40. Inter-correlations between teacher self-efficacy and years of teaching experience

Variable	1	2	3	4	5	6	7	8	9	10
	Full Sample (N=79)									
1. Student Engagement	-	.86*	.77*	.94*	-.01	.07	.12	-.21	-.01	-.23*
2. Instructional Support		-	.76*	.94*	.03	.12	.15	-.14	.05	-.29*
3. Classroom Management			-	.91*	.07	.11	.18	-.11	.09	-.11
4. Teacher Self-Efficacy				-	.04	.11	.16	-.16	.07	-.23*
5. Career					-	.87*	.57*	.66*	.81*	.16*
6. ECE						-	.66*	.55*	.80*	.03
7. Current Site							-	-.01	.71*	.20*
8. Other Site								-	.46*	.13
9. Poverty									-	.24*
10. Other Than ECE										-

*Note: *p<.05*

Overall, only one teaching experience variable was found to have a weak but significant correlation to any of the teacher self-efficacy variables. Years of teaching experience outside of the early childhood setting was found to have a negative relationship with the Student Engagement, Instructional Support, and Overall Teacher Self-Efficacy variables. This finding suggests that teachers lacking early childhood teaching experience do not feel as though they possess the tools and traits necessary to positively affect student achievement in their EPK/UPK classroom. Table 41 reports a *t*-test analysis of years of teaching experience between RCSD and CBO teachers.

Table 41. 2015-16 *t*-Test Analysis between RCSD and CBO teacher years of teaching experience

2015-16 *t*-Test Analysis Between RCSD and CBO Teacher Years of Teaching Experience					
	RCSD (n=37)		CBO (n=44)		
Type of Experience	Mean	SD	Mean	SD	*t*
Career	14.3	8.7	8.7	6.5	3.35*
Early Childhood	12.4	8	7.8	6.2	2.91*
Current Site	7.2	7.4	2.8	4.5	3.33*
Other Site	7.9	7.6	5.7	4.9	1.53
Poverty	13.7	8.2	6.6	6	4.51*
Other Than ECE	2.1	4	2.7	5.6	0.54

$*p < .05$

Overall, RCSD teachers have significantly more experience than their CBO peers in four of the six teaching experience variables; career, early childhood, current site, and poverty. Although RCSD teachers have significantly more years of teaching experience, it is not reflected in outcomes measured by the CLASS and ECERS-3. Table 42 depicts *t*-test analysis between CLASS outcomes between RCSD and CBO teachers.

Table 42. 2015-16 *t*-Test Analysis between RCSD and CBO CLASS scores

2015-16 *t*-Test Analysis Between RCSD and CBO CLASS Scores					
	RCSD (n=37)		CBO (n=44)		
	Mean	SD	Mean	SD	*t*
Emotional Support	6.4	0.5	6.4	0.6	0.19
Classroom Organization	6.2	0.6	5.9	0.8	1.84
Instructional Support	4.0	1.0	3.5	1.0	1.9
Overall Class Score	5.5	0.6	5.3	0.7	1.66

Table 42 depicts *t*-test results between RCSD and CBO teacher CLASS outcomes. As previously discussed, even though RCSD teachers have significantly more years of teaching experience than their CBO peers, no statistical difference is reported between CLASS outcomes.

Table 43. 2015-16 *t*-Test Analysis between RCSD and CBO ECERS-3 scores

2015-16 *t*-Test Analysis Between RCSD and CBO ECERS-3 Scores					
	RCSD (n=27)		CBO (n=41)		
	Mean	Std	Mean	Std	*t*
Space	4.9	1.0	4.8	1.0	0.47
Routine	4.9	1.5	4.7	1.3	0.68
Language	5.1	1.2	5.1	1.3	0.12
Activity	4.3	1.1	4.4	1.2	0.26
Interaction	5.9	1.2	6.2	1.2	0.84
Program	5.8	1.5	6.1	1.3	0.71
Total	5.2	1.1	5.2	0.9	0.08

Table 43 depicts t-test results between RCSD and CBO teacher ECERS-3 outcomes. Similar to Table 42, no differences exist between RCSD and CBO ECERS-3 outcomes.

Summary

Teacher self-efficacy is described as one's belief in the ability to positively affect student achievement. The small sample of Rochester community teachers who completed the teacher self-efficacy questionnaire provides information about their perspective on their abilities in the classroom.

- *Overall teacher self-efficacy in the Rochester community is one of the highest reported across the empirical literature (Guo et al., 2011; 2010; Cheung, 2008).*
- *RCSD teacher self-efficacy, as reported by t-test analysis, is significantly higher than CBO teachers' self-efficacy.*
- *Teacher self-efficacy and CLASS outcomes are highly correlated-see Table 37. However, the Emotional Support domain of the CLASS does not significantly correlate with any teacher self-efficacy variable.*
- *No significant correlation exists between teacher self-efficacy and the ECERS-3.*
- *A significant and moderately negative correlation exists between years of teaching experience outside of the early childhood setting and the Student Engagement, Instructional Support, and overall Teacher Self-Efficacy. This finding suggests that teachers lacking early childhood teaching experience do not feel as though they possess the tools necessary to positively affect student achievement in their classroom.*
- *CLASS and ECERS-3 scores were not affected by years of teaching experience as reported by RCSD and CBO teachers. No significant differences were reported by t-tests analyzing RCSD and CBO CLASS and ECERS-3 scores.*

Recommendations

Years of teaching experience outside of the Birth-2nd grade setting and overall teacher self-efficacy was significantly and negatively correlated. Future hiring practices should include an examination of candidates' years of teaching experience outside of the Birth-2nd grade setting when hiring for an EPK/UPK teaching position. As reported, teachers with teaching experience outside of the early childhood education setting may not feel as efficacious about the ability to affect student achievement.

Parent Perspectives

Family Involvement Questionnaire (FIQ)

The Family Involvement Questionnaire (FIQ), which had been a regular RECAP feature for nearly ten years, was developed by John Fantuzzo, the Albert M. Greenfield Professor at the Graduate School of Education at the University of Pennsylvania. Professor Fantuzzo has been most helpful colleague to RECAP over the years and visits Rochester Pre-Ks and Children's Institute on a periodic basis. RECAP first piloted and administered the FIQ during the 2006-2007 school year. Since then, RECAP has administered the FIQ twice a year, once in the fall and once in the spring, to measure changes that may have occurred in parent involvement throughout the course of the school year. The 2011-2012 school year marked the beginning of the systematic use of the 21-item short form of the FIQ, which, based on analyses in previous years, demonstrated adequate and robust reliability and validity when compared to the full 42-item FIQ (Fantuzzo et al., 2004). There are a number of advantages to reducing the number of items. Most notably, it reduces the amount of time parents need to spend completing the questionnaire and increases the likelihood of the FIQ's completion – although this, the final year of the FIQ showed a marked decrease in parent participation, down from an initial 973 responses in 2010-11, to 358 in 2015-16. In spite of this drop, the measures have remained consistent, as shown below.

This past 2015-16 year marks the final use of the FIQ in its present form. The FIQ is not aiding policy-makers in increasing family engagement. As part of RECAP's initiatives to increase the low levels of family involvement, new instruments are being introduced, with the emphasis on authentic family engagement.

As to the otherwise positive attributed of the FIQ, it measures parents' involvement in and support of their children's education. The measure is psychometrically sound and has three empirically derived factors (Fantuzzo et al., 2004). Children's Institute independently validated these results (Gramiak et al., 2007). The three parent involvement domains are:

School Involvement: This includes activities and behaviors that parents engage in at schools/centers with their children. Examples are, "I go on class trips with my child," and, "I talk with other parents about school meetings and events."

Parent-Teacher Communication: This describes communication between parents and school personnel about the child's educational experience and progress, including talking with the teacher about multiple facets of the child's classroom experience. Item examples include "I talk to my child's teacher about his/her difficulties at school" and "I talk to my child's teacher about my child's accomplishments."

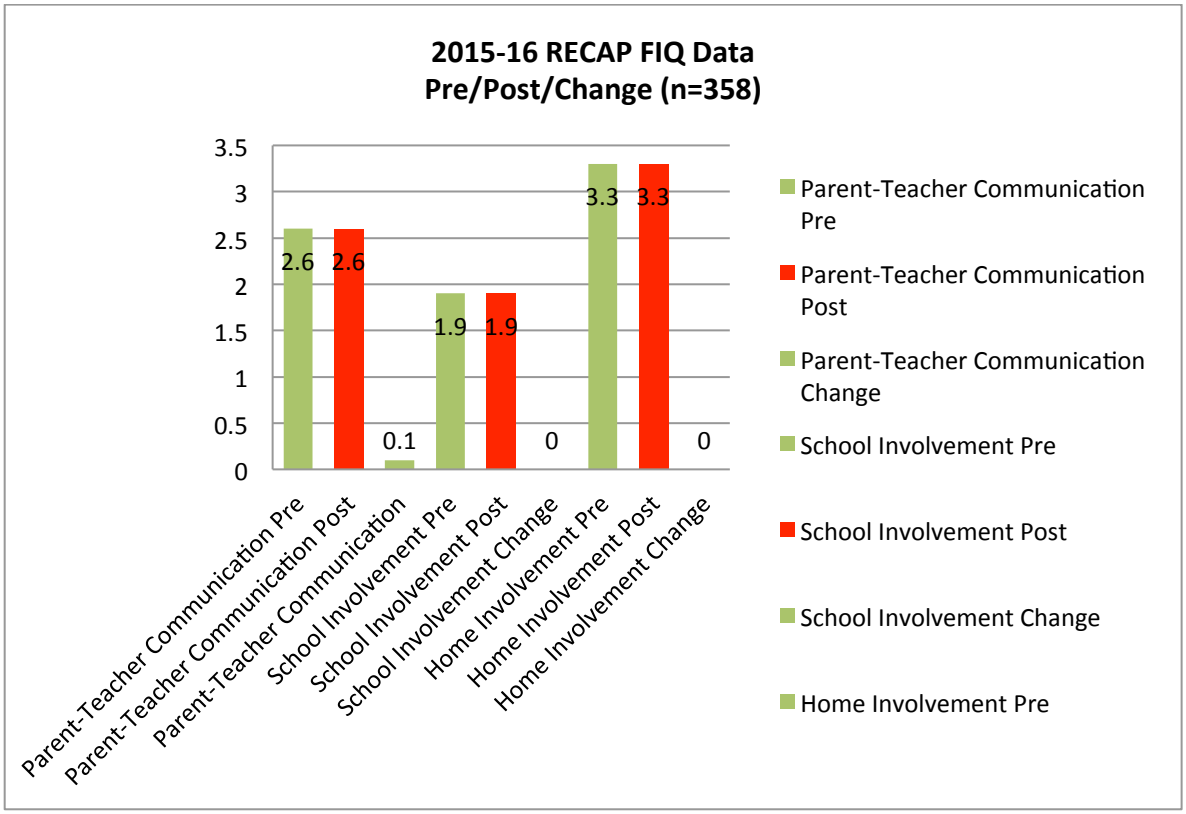
Home Involvement: This scale examines parent-reported behaviors in the home that promote a learning environment for children, such as providing a place in the home for learning materials and creating learning experiences in the community. Items from this grouping include "I spend

time with my child working on reading/writing skills" and "I take my child places in the community to learn special things (e.g. zoo, museum)."

With this school year's data, we assessed whether differences emerged throughout the course of the family's involvement in their child's preschool year by reporting the pre- and post-comparison on the three scales. The Cronbach's alpha reliabilities (Cronbach, 1951) of the fall data collection have remained stable and are reported in the *Statistical Supplement* this year.

Figure 22 below shows parents consistently report their greatest involvement in the home environment, followed by moderate involvement with communications with teachers, and the least involvement in the classroom. Results for the previous five years (the most recent four years shown below along with 2015-16) show strikingly similar results. Note this is true whether 358 parents responded (as we saw in 2015-16) or whether 978 responded, as did in 2010-11 (not shown below for space reasons).

Figure 22. 2015-16 RECAP FIQ data



As we consistently reported over the past six years family involvement remains low, and it has shown very little change from one school year to the next (Infurna et al., 2015). Overall, efforts by program administrators and teachers, if any, have made no evident impact on parent involvement as measured by the FIQ.

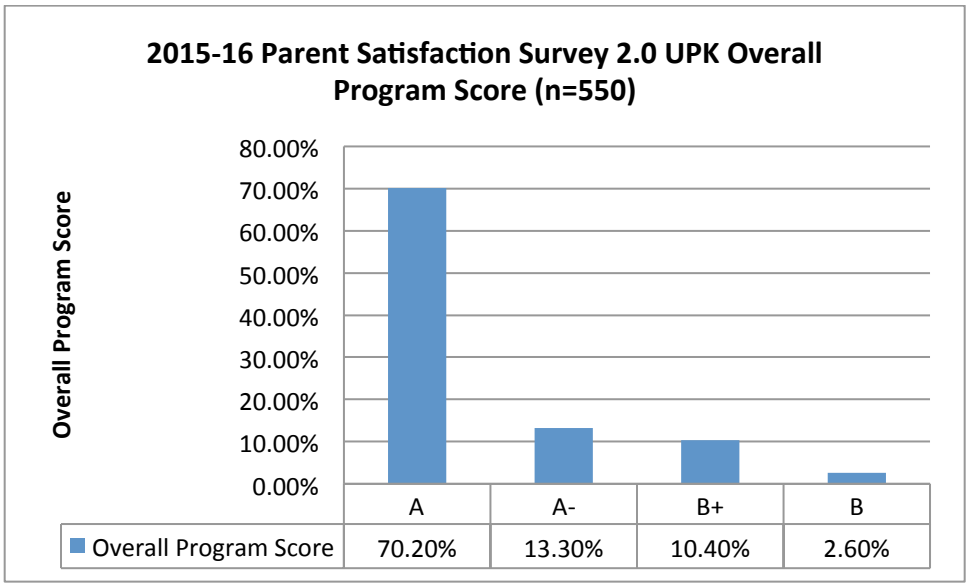
Because family involvement is important and families typically do not get more involved in their children's education as their children grow older, it is critical that increasing family involvement continues to be a significant area of focused effort in the pre-kindergarten years. Accordingly, next year we will be reporting on new parent measures, ones where the intent is to promote authentic family engagement.

Early Childhood Parent Survey (2.0)

The Early Childhood Parent Survey (2.0) (ECPS) is a comprehensive assessment that captures parents' observations about the quality of programming their child is receiving. The ECPS allows parents the opportunity to grade seven components of their children's UPK program. The captured components are; (I) Parent Needs, Communication and Involvement, (II) Children's Needs, (III) Learning Environment, (IV) Teachers, (V) Administration, (VI) Building, Room and Equipment, and (VII) Overall Program.

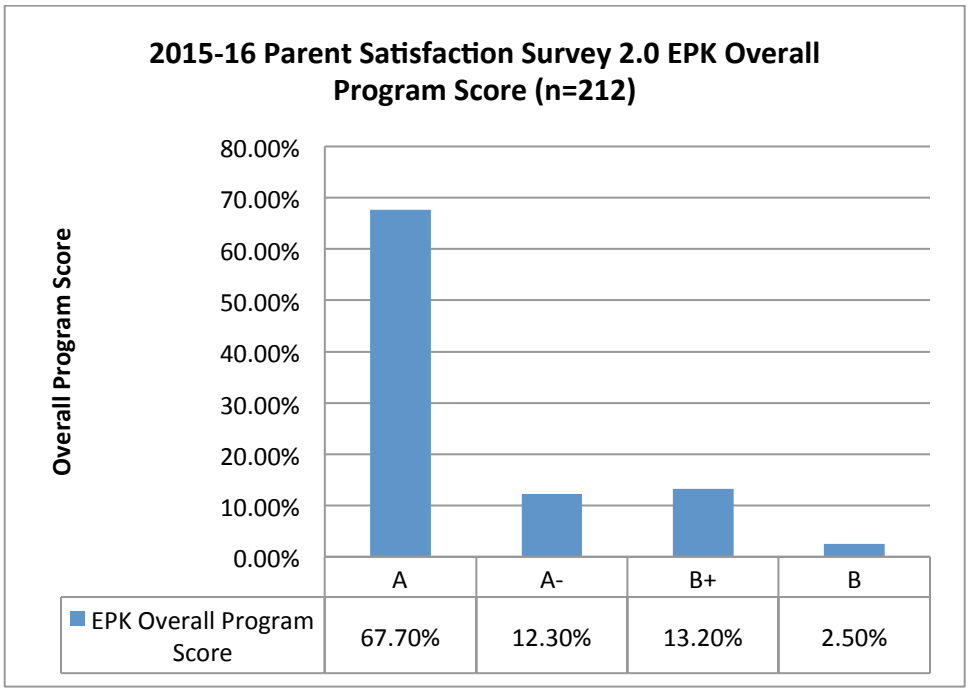
Each unique component contains multiple questions that parents are asked to answer by simply filling in the "Yes" or "No" bubble that corresponds to each question. At the conclusion of the component section, parents are asked to grade how well the program meets their needs. Figure 23 represents parent ratings of program quality at the UPK level. Figure 24 represents parent ratings of program quality at the EPK level.

Figure 23. Parents ratings of program quality UPK



Overall parent satisfaction rating the UPK program an "A", "A-", "B+", and "B" is 97%.

Figure 24. Parents ratings of program quality EPK



Overall parent satisfaction rating the EPK program an “A”, “A-“, “B+”, and “B” is 96%.

Recommendations

The efficacy of RECAP's continuous improvement system and the important role that feedback reports serve in continuing to inform the implementation of quality standards in classrooms have been demonstrated repeatedly. Below are recommendations that will hopefully lead to additional improvements.

Program

The community should place a greater emphasis on professional development training and opportunities focused on the ECERS-3 and CLASS. Specific training should be placed on the ***Activity***, ***Space***, ***Routine***, and ***Language*** domains of the ECERS-3, as well as the ***Concept Development*** dimension of the CLASS. Intentional plans for training are necessary for teachers and staff. Fortunately for our community, technical support teachers as well as other staff are available to meet the unique and specific needs of every teacher and program to readily make available resources to seek improvements.

Over the course of this past summer, teachers and administrators in Rochester were trained on the Pyramid Model. The Pyramid Model builds upon and supports a tiered system of social emotional supports for to children, with specific targets of services to children who are in need of more intensive supports. To determine the efficacy of implementation, we will monitor classroom and student outcomes that participate in the Pyramid Model. The Teaching Pyramid Observation Tool (TPOT) will be used to monitor and gauge the efficacy of the Pyramid Model.

Student

The community and RCSD must continue to focus on all children birth-4. The community (city and county governments, the faith community, etc.) schools, CBO's and families must work together to increase EPK and UPK student attendance. Prek children with poor attendance are being left behind, but they are still making significant gains during the time they do attend. To great support attendance, the ROC the Future (RtF) Attendance CAN should establish a prek Attendance sub-CAN with a cross section of community partners that will focus only on prek attendance, as prek children and their families are in many ways different from school age children.

Other possible actions include the implementation of different interventions using results-based and rapid cycle technologies to determine what interventions work and which interventions do not work, in which those interventions should be discontinued.

Expand summer learning opportunities to all families who wish to participate. With the inclusion of the summer learning program at the conclusion of the 2015-2016 prek school year, we observed 76% of prek-go-kindergarten participants ready to transition to kindergarten. We must continue to increase the size of this program and continue to assess its apparent efficacy.

However, we, as a community, must increase prek student attendance – the better the student attendance, the better the results. UPK staff may benefit from training from RCSD Parent Engagement staff on effective methods to increase student attendance.

Parents

Provide all UPK directors, teachers, and staff with comprehensive approaches on how to engage parents to work with their children at home and at school, and with the teacher.

General

Increase timeliness and completeness response rates across all sources for all measures.

Presentations and Publications

Infurna, C. J. (2015). Using COR Advantage to Assess UPK Students in an Urban School District. Poster presentation at 5th Annual HighScope Early Childhood Research Conference, Detroit, MI.

Infurna, C. J. (2016). Using COR Advantage to Assess UPK Students in an Urban School District. Session presented at the International HighScope Conference, Detroit, MI.

Infurna, C. J. (2016). RECAP A-team continuous quality improvement system for early education. Presentation to the:

RECAP Advisory Committee

MacGowan, A. (2016). *RECAP- A team continuous quality improvement system for early education*. Presentation to the:

Universal Pre-K Policy Advisory Council
Childhood Development Initiative
Early Childhood Development Initiative
Early Childhood Quality Council
RCN Annual Board Meeting

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